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NEW COMPUTER EXPRESS

First news, first reviews - every week



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SEGA'S 16-BIT SENSATION

A fact-packed section for
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Atari ST
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PC SHOPPING

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OVER YOUR LIFE - page 38

Is this the best game this year?



First review - page 29

CDI standard: the giants agree

A definitive standard for the much touted technology of tomorrow - Compact Disk Interactive - has at last been completed.

Philips and Sony, the companies that originated compact disks and CD-ROM, have shipped out their new technology to hardware manufacturers looking to make CDI players as well as to prospective software writers interested in authoring applications for the machine.

It is hoped that CDI will be available to the general public before 1992. When machines appear they will "naturally be at consumer prices".

CDI will plug straight into a television and can be operated by mouse, keyboard or remote control. Its main uses will be as apparently sophisticated databases combining text, speech, audio and graphics. Possibilities exist for the machines to run games, although something like word processing is apparently not feasible.

These hardware manufacturers that already have the rights to original CD technology (ie most large electronics companies) will be able to churn out machines for no fee. Others though will have to pay Philips/Sony.

That one won't be launching a machine proper until a software base has developed. Audio CD players of the future will be compatible with CDI software and vice versa.

Philips appears to be confident that the CDI standard will be accepted, given that CD itself was spared the growing up pains of, say, video.

"This is a completely different product from anything else," commented a Philips spokeswoman. "It combines the personal computer, video and audio player."



● All the best people read *Nine Computer Express* - and so does Bruno Brookes. The fine Radio One rock was spotted at the recent Commodore Show browsing through our pages for all the latest on his beloved Amiga and other matters computerish. Bruno has owned an Amiga for six months now and uses it to catalogue his CD collection and surf the other D'lightings. Two games Interceptor and he plans to improve his accounts on the machine.

£200 machine ups stakes in 16-bit war

SEGA CONSOLE WOWS THE JAPS

Sega's stunning 16-bit console will cost £200 when it goes on sale here next September.

The new machine hit Japanese shores last week and initial batches of tens of thousands sold out within days. Exposure has laid the hands on what is believed to be the only such machine in the UK.

Despite previous talk of direct compatibility with existing Sega cartridges, the new deck will require for this an adaptor costing around £20.

Contrary to false reports elsewhere in the press the machine will be called the Megadrive and not Megadrive. A much touted price point of £140 is clearly wide of the mark.

The machine is being called an 'Amiga and 3T' better mainly off the back of its arcade like graphics. Its 64 colour screen has no margin and is capable of enormous speed. The Megadrive comes with a curious kidney shaped game controller.

And the sound capabilities closely follow those of an arcade machine with three options - Programmed Sound Generation, Pulse Code Modulator and FM.

Cartridges will cost between £30 and £35. Those currently available in Japan include enhanced versions of Out Run, Afterburner and Space Harrier II. There are no plans for third party development of games. Sega opposes a tightly controlled policy which excludes all publishers except those with licenses.

Sega's products are handled here by Virgin/Mastertronic. Boss Nick Alexander told *Express*: "At best it's very nearly a year away and if we do manage to get it out then it'll cost £200. We see it as a trade up in the range. The biggest problem is that Sega are struggling to meet demand



• Megadrive: £200 next September

in Japan." In effect, Sega is concentrating on Japan before addressing the European market.

Alexander added that Sega's president Mr Nakayama had ruled out any sub-£150 price. That said, September is currently a long way off and the whole market may be in a different state come the middle of next year, when a final pricing decision would have to be made.

Another possible delay is the problem of converting the console to the British PAL television standard.

Alexander rebutted the notion that this announcement will damage the existing 8-bit machine. He said they would "sit side by side". "When news first came out of Japan we were not desperately pleased. But when we learned that it was more than twice the price and the fact that it won't be here until September, we were less unhappy," he said.

Come next year 16-bit console shoppers will be given the choice between Sega's machine and Atari's console, which will be half the price.

QL's emulator undercuts PCs!

A PC emulator for the Sinclair QL is to be launched early next year at under £100 turning the machine theoretically into the cheapest of all PCs.

Originated by Digital Precision it will be bundled with Version 4 of

Microsoft's MS-DOS. The firm is waiting for that to arrive.

Digital is quick to point out that the £100 emulator with a QL will make the machine the cheapest PC compatible on the market.

"It's not going to be

incredibly fast," said boss Freddie Vachon, "because the QL has to pretend it is something else." According to Vachon the software based emulator will be able to handle all PC programs.

More info from Digital Precision on 01-527 5493

It's the open heart surgery simulator

Just when you thought that every hacker idea for a computer game had been used along comes, of all things, a hospital simulation.

California publisher Software Toolworks has come up with the game which enables you to play surgeon. The firm

warns that it involves cutting through "living" flesh and dabbling with organs.

"You make Godlike decisions that determine whether your patient lives or dies," says the blurb. Toolworks' Lisa Dickenson denied that the game isn't entirely in

good taste. "Hey, we're not asking people to go around cutting bodies up," she explained from Sherman Oaks in California.

Electronic Arts will probably be publishing *Life and Death* in the US some time in the new year.



• Life and Death: Godlike!

Atari takes Stacey laptop in hand



• Glowacki: Possible case delay

Job cuts hit Mediagenic

More evidence of problems for United States software houses emerged last week with Mediagenic laying off 20 of its staff.

The firm is blaming the cutback on a squandering of the home leisure industry in the States. Computer games and toys in general are suffering dearly. Mediagenic. This news comes back on the heels of disappointing financial results posted earlier in the month. Second quarter profits dipped from \$1.5 million to \$200,000.

The personnel loss in California represented 31 per cent of the company's staff worldwide. Other US companies experiencing problems include Matriosque, which posted a quarterly loss of \$180,000, and EA, which has had to close down its Japanese office (Express issue 2).

UK boss Rod Constant said: "We are, indeed, profits but thought it would be prudent to carry this out. The entertainment market is depressed in the States. This makes our consolidation." He stressed that while Mediagenic is experiencing cut backs the UK arm is still remaining.

Atari's designers and technical support have been given the task of completing the C790 ST laptop Stacey by March.

Although the circuit board is up and running, the casing has yet even to be agreed upon. At Commodore two weeks ago a polystyrene model was on display but that is said to be some way off the desired final result.

One problem is the tracker ball which has been drafted in to replace a mouse. Current thinking puts the ball in the right hand corner of the machine - this though would cause problems for that 15 per cent of the population which is left handed.

Speaking at the Atari Show last Friday the firm's boss Bob Glowacki told Express: "There's the possibility of a delay because we haven't got the casing yet but the circuit board is ready. All the problems will be ironed out by the international launch at Hannover in March."

Atari is also working on the possibility of expanding power capabilities. Stacey is currently battery powered only, with a life of six hours. However, it is being suggested that an Amstrad PPC solution be brought on - that of running the machine off a car cigarette lighter. "We're also looking at different standards for the battery cells," offered technical direc-

Stacey tech spec

Price: £695

Launch: International unveiling at the Hannover Messe in March. It should be in the UK later in the spring

Driver: 3.5 inch floppy - exactly the same as the ST

Screens: 640 x 480 LCD pixel super-test

Memory: 1 Mbyte of RAM

Weight: "About the same as the 1040ST"

Power: Battery power, possibly car cigarette lighter and mains power supply

tar Lee Player.

"The case itself is being designed by its Volkswagen who is responsible for all the ST range's cases. Here's a perfectist," added Player. He estimated that Stacey would weigh roughly the same as a 1040's main unit.

Amstrad: made in UK

Amstrad is planning to switch much of its manufacturing operations from the Far East to Britain.

Alan Sugar's firm has saved extraordinary amounts of money in the past by sourcing products from the Orient where labour is a good deal cheaper. The competition for Western manufacturing contracts is so fierce that prices of parts have sometimes verged on the ridiculousness.

However, Sugar is looking to hire British sub-contractors to build his machines - predominantly his new business range. Amstrad is currently negotiating with new telecommunication combine GPT. If the contract is won GPT could be responsible for up to 30 per cent of all PC2000s.

It will represent the first time Amstrad computers have been manufactured in the UK. Amstrad machines being made in the UK was widely ridiculed as little as 18 months ago when the suggestion was first mooted.

only thinking of buying one for personal use.

The old club mob included some 45,000 businessmen looking to buy a machine over the next twelve months.

Next year's event ran from September 27th to October 1st. (That's quite enough facts - ed.)



• PC 88: It figures

PC SHOW 88: Who went and why

Factual breaks read on. Here are all the equity bits and bobs to emerge from the PC Show which occurred all that time ago. Well, September at any rate.

It would appear that there were 98,000 visitors of whom 36 per cent made a beeline for the leisure hall and were interested only in what goodies were lurking behind the namazurazur stands. A few less, 34 per cent, headed for the sober business hall and kept a good distance from the gaming fraternity.

Deceases will realise that the other 30 per cent were there to soak up the lot and floated around all the halls.

More than 30 per cent of the visitors didn't have a computer and were seri-

Shoot from the Lip...

the week's most quotable sayings

"Rose bushes: that's the principle. We're absolutely pruned ourselves right the way back so that we can flower again."

CEO's boss Clement "Greenfingers" Chambers on the right way to save a company.

"Yes, last year we said it would take two years for us to make a big impact on the PC market. But now you have to

start those two years from this October because that's when we had proper availability of machines."

An associate in moving the gaspouts courtesy of Sam's John Colborn.

"After five finished Flight Night, I'll either start up a software development house or buy an ice cream van."

Programmer Steve Burt putting his plans on ice - either way.

Training blues

According to training firm Computech companies using micro compile that their biggest recruitment problem is finding computer literate personnel. Not 20 per cent of those companies don't even train their own staff.

Ast of those that do, 40 per cent only take on one or two trainees.

Computech runs a series of training courses aimed solving the computer literacy problem.

NEW COMPUTER EXPRESS

OUR OPINION

Computer firms: console yourselves

Even by the standards of the hype-obsessed computer market, the new Sega console really is quite extraordinary. We've been lucky enough to get our hands on one and our exclusive report begins on page 8. Judge for yourself the quality of the graphics. Better than the Amiga is an understatement - particularly when you see those graphics in action.

The true sadness is that it won't be on sale until next September at the absolute earliest. For that, blame the excessive demand from the Japanese. (You could also say by looking Virgin Megastore, though that's unlikely to have much effect.) But when it comes, just what will it mean for the keyboard-based games machines?

One view says that the Sega Megadrive will simply wipe the floor with their 16-bit computer counterparts - to say nothing of their effect on those old dinosaurs the Spectrum and 64. If people only want to play games, then give them a games-only machine.

But it isn't quite that simple. Even if the main motivation is games, most people still hope that their machines can do something more than just blast alone to oblivion. Certainly that's true when it comes to parents, who still nurture beliefs that computers are "useful" for their kids.

For sure the new Sega will be exceptionally well. But its success will be more like the Amstrad Effect, where a new market is created in addition to - rather than as a replacement for - the existing one. Reports of the death of keyboard games computing have, as ever, been greatly exaggerated.

Simply dishonest

Legal niceties prevent us from commenting in detail upon the new that has broken out between Microsoft and Commodore User (see page 6). All that we can say is that Express has a clear policy of not being directly critical of a pre-production version of a new title without pointing out that it is incomplete.

Other publications - and we're not talking about CU - appear willing to dress up any pre-release version as a full release, so that they can trumpet having an exclusive. Such practices are quite simply dishonest. Ultimately, they're no good for the punter, no good for the software house and in the end - God willing - no good for the magazines concerned.

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KIDS ADDICTED TO NAZI HORROR GAMES

West German computer addicts are playing disturbing Nazi games which include anti-semitic references in a slick new craze sweeping the country.

The illegal disks are being circulated by underground Nazi groups and picked up by home computer users. The games include on-screen swastikas, and players are urged to conquer the world for the Aryan race and destroy homosexuals, Communists and ecologists.

Many war-related games produced here and in the US are banned from Germany, including combat simulations from the likes of MicroProse. But the Nazi titles are being produced in Germany itself and the Government is having difficulties cracking down on distributors.

Parents are being urged to keep an eye on what their children are playing. The games are being aimed specifically at the 12 to 16 year old age group and are apparently the height of fashion amongst young computer freaks.

Two games have been singled out as being particularly offensive. Clean Up Germany urges gamers

to kill enemies of the state to the sound of Deutschland über Alles. And The Aryan Task requires taking an exam. Disgracingly, players are graded from being a "witched Jew"

to an SS officer.

This is happening in a climate of increasing violence on West German streets against immigrants and a surge in Nazi activity.

Multi-nationals panic at computer fraud surge

Large financial institutions are investing larger and larger amounts of money into protecting their PCs as the threat from computer fraudsters and hackers grows ever more.

Last week, multi-national financier Merrill Lynch spent the first \$280,000 of a potential \$3 million investment in securing its network of PCs. The firm, like many sensitive institutions, has been reviewing its security systems recently and has found them wanting.

One security industry source told Express that Government defence and intelligence agencies are experiencing a new surge in panic as more horror stories of computer fraud and hacking come to light. Many reason that for

every plan which is failed, there lurk many more which remain undetected until it is too late, if at all.

"You don't hear about this because companies and agencies don't want their security plans known," commented Louis Oley of security firm Microsys. "But there has been widespread analysis over the past two years within firms like Merrill Lynch. They are prepared to spend a million because it potentially saves many times that."

Such is Merrill Lynch's angst about being caught unaware that it has bought a substantial stake in Microsys. Thus, the annual step of revealing security details was taken.

Anco boos again

Page three bimbo Maria Whitaker has once again popped up in a computer game.

This time Anco, purveyor of the squalid Strip Poker series, has signed up the buxom beauty. Anco, ST and PC owners will soon be able to try their hand against the tabloids' starlet.

Express is informed that the climax of the game - called Maria's Christmas Box - involves a 0 string. Whitaker was the centre of a cleverly misinterpreted pantanal storm of disapproval when she appeared in ads promoting Palace's Barbican game. At the time, at least one publication decided to cover up her most revealing assets.



• Whitaker: Computer starlet

Art for Arc's sake

Claris Micro Supplies has just released its ProFrisson graphics package for the Archimedes.

ProFrisson - the sequel to Artisan - works in Mode 15 and is claimed to make full use of the 256 available colours. Besides sporting all the usual facilities provided by top-end home graphics packages, ProFrisson features graduated fill manipulation, true cut and paste, spline scaling as well as Bezier curves for freehand drawing and anti-aliasing.

Perhaps the package's most powerful feature is its ability to designate full screens as complete sprites and distort it into a sphere in less than two seconds. This kind of manipulation,

plus the ability to compress screen files by up to 40 per cent, is being lauded by Clari as a good reason to attract those in the Archi brigade with £169.95 to spare. Tel: 0606 48551

• ProFrisson: Manipulation



For 2 points: Does this face look anything like Ian Botham?

A little problem with Emlyn Hughes had software house Elite in a mad panic last week as it attempted to get *A Question of Sport* out onto the streets.

The game is a month late and last-minute changes have meant that three other games Storm Warrior, Windward and Superturk won't be out

until some time next year.

The problem with *A Question of Sport* arose when squawking panelist Emlyn Hughes was replaced by Ian Botham in the TV game show. Elite had to gain Botham's permission to use his likeness in computer form and then had to replace the digitised Hughes. Sundry bugs have also

been cropping up.

"We had to get a licence like this out before Christmas and so the other games have had to wait. The people here have been working non-stop to get it out," said Richard Jil Elton.

Question of Sport was due for release in October. Elite now plans for all computer versions to be



• Hughes: Elite headache available from this week onwards.

GAMES TOP TWENTY			FULL PRICE
1	Double Dragon Spectrum C64	127	RELEASING VALUE
2	Last Ninja 2 Spectrum C64, CPC	107/102	
3	Return Of The Jedi Spectrum C64, ST, CPC	106/101	
4	Football Manager 2 Spectrum C64, ST, CPC	102/103	
5	Poorman ST Argo, Spec C64, CPC	100/100	
6	Old Run Spectrum C64, ST, CPC, Argo	100/100/102	
7	Daily Thompson's Olymp. Chell Spectrum C64, ST, Argo, CPC	100/100	
8	Tate Coin-ops Spectrum C64, CPC	100/100	
9	Game Set and Match 2 Spectrum C64, CPC	100/100	
10	Supreme Challenge Spectrum C64, CPC	100/100	
11	R-Type Spectrum	100/100	
12	Atlantimur ST	100/100	
13	Elite Spectrum C64, ST, BBC Electron, PC, MSX, CPC	100/100	
14	Emlyn Hughes' Int. Soccer C64	100/100	
15	Track Suit Manager Spectrum C64, CPC	100/100	
16	Arbore Ranger Spectrum C64	100/100	
17	Lombard RAC Rally ST Argo, PC	100/100	
18	Starglider 2 ST Argo	100/100	
19	Gold Silver And Bronze Spectrum C64, CPC	100/100	
20	Armalyde C64	100/100	
GAMES TOP TEN			BUDGET
1	Joe Blazo 2 Spectrum C64, BBC, C64, Electron, CPC	10/10	
2	Bomb Jack Spectrum C64, C64, CPC, ST, Argo	10/10	
3	Commando Spectrum C64, BBC, C64, Electron, CPC	10/10	
4	Footballer Of The Year Spectrum C64, BBC, Atari-Int, C64, MSX, CPC	10/10	
5	Advanced Pinball Simulator Spectrum CPC	10/10	
6	Combat Lynx Spectrum C64, CPC, BBC Electron	10/10	
7	International Rugby Simulator Spectrum C64	10/10	
8	Start Bike Simulator Spectrum C64, CPC	10/10	
9	Kik Start 2 Spectrum C64, CPC	10/10	
10	End Zone Spectrum C64, CPC	10/10	

COMPILED BY P. GILLIOP

Full prices given where available

Atari's mega bucks trauma

Atari continues to be dogged by the bad performance of its chain of American shops called Federated.

Though computer sales are increasing Federated is losing the company nearly \$2 million a month. Atari - owned by Commodore's former boss Jack Tramiel - made a profit of only \$900,000 for the three months up to the beginning of October. That is down 91 per cent on the corresponding period in 1987. Such a shortfall is likely to hamper Atari's ambitious plans across the board for computing next year.

In contrast, arch rival Commodore is enjoying profit increases of 92 per cent brought about by moves up market and internal re-organisation.

Sales of Atari computers increased by 20 per cent during the period, although even here profits were down 20 per cent. Atari, once again, blamed 3-1/2-inch prices and shortages for "negatively impacting" profits.

FURIOUS MARTECH TAKES MAG TO COURT



• Martin: Sick as a pig

An angry legal battle has broken out between games publisher Martech and the magazine Commodore User. The row could have a knock-on effect on the way magazines review software.

Martech is livid because Commodore User has slated its new game *Phantom Fighter* - allegedly without reviewing a completed version. The software house says it only sent editor Mike Patterson a pre-production demo for preview purposes. The firm claims that this fact was stressed to Patterson.

Last week Martech took the Magazine to the High Court in The Strand with the aim of obtaining an injunction to prevent distribution of the magazine. The judge was said to have been sympathetic but due to

the extraordinary costs of piling a mag the injunction was refused. Martech is now set to sue CU's publisher EMAP.

"We're as sick as pigs about this," raged Martech's boss David Martin. "It's a fundamental breach of trust that you have to have with the magazines. The game was clearly a demo. When they asked if it was reviewable we told them it wasn't."

"I can only guess that Mr Patterson was trying to be clever. We won't be submitting anything to Commodore User while he is editor."

He went on: "This will have relevance to every software house that sends out demos to magazines. We need to feel comfortable about sending these things out." He added that *Phantom Fighter* has been received

well by all other magazines (including CU's sister paper *The One*, which reviewed the completed version. Aspects of the game which Patterson had scored, said Martin, had been ironed out.

What has upset Martin even more is that the game was programmed by an Irish development house, Emerald, which he set up in conjunction with the Irish Government. "This was Emerald's first venture and we wanted to show everyone what a great game it is. They will be extremely angry with this."

Patterson points blank refused to comment on the matter. Indeed, EMAP as a whole is currently preferring to remain tight lipped.

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shopping days to go...

The last thing most game people want to start thinking about now is Christmas 1988. But the software houses already have their eye on the games which might be taking as into the next decade. Activision's UK supreme Rod Cousens reckons his firm's is with a chance with *Powerslave*. Among the biggest threat, he says, will be Ocean with *Chase HQ*.

Snippets

Refreshing ribbons

For those people who dislike buying a new printer ribbon every couple of months comes Ribbette.

The £9 aerosol will, according to Caspex Computer Services, change an old faded ribbon into a sparkling new shiny one. And it can perform this feat "over and over again".

Money for old sticks

Joysticks aren't the most resilient of creatures, as any gamer will tell you - and replacing them can be a costly business.

With this in mind Letchworth-based Feedback Designs has come up with a scheme to recondition lost wiggles. The company will take in any faulty stick and immediately replace it with a fully working model. Thus, it will take apart the broken joystick, fiddle around and have it into working models to send on to the next customer.

"We've got most models in stock and we'll send a fixed joystick through if we get a broken one through," explained managing director Keith Penkallan. "We got the idea because the son of the boss kept breaking his joystick and it was costing a fortune." The cost of reconditioning your stick is £4.90. More info on 0462 480723.

Kids' mega GCSE trauma

Young ST owners hoping for a good blast-ers up as a Christmas present could be in for a nasty surprise from educational software house Adamsoft.

The firm is about to let loose GCSE *Algebra Maths* in the hope that parents will consider it a more valuable use for the machine their offspring are spending so much time on. Adamsoft takes it as read that students themselves won't be looking out for the GCSE program.

"It's difficult to get youngsters to use educational programs instead of playing games," observed boss David Tomlinson. "But the parents will buy them."

The program was written by a teacher, and Adamsoft reckons it'll give students a better chance of passing their GCSE Maths exams come the summer.

More details on 0796 524364.

Amstrad climbing

The Financial Times may have brought a smile to Mr Alan Sugar's normally stern face last week.

In the esteemed publication's annual Top 500 biggest Euro companies chart, the Amstrad mob had moved up from number 211 to 170, in the process taking over such notable names as Heineken and Rolls Royce.

However, a look up to the heady heights reveal that Europe's number one computer company is still Olivetti at 81, despite a dip from number 60.

Dixons doing the business



• Dixons: Beating the bumbos?

High street chain store Dixons has opened up its first business computers only store in Leicester.

The multiple retailer reckons businesses have hitherto been served badly when it comes to electronic office equipment. The business centres "everything from the PS/2 range to a desktop fax machine".

And the firm claims that it will be installing staff who know what they're talking about. The high street computer stores in general are notorious for bumbling sales assistants. Dixons personnel promise to pay customers well when problems occur. Other business stores are set to follow.



• Rainbow's award-winning and tenderly modern adventure *Corruption* has been launched for the Mac with a price tag of £34.95. It's also available on the Amstrad at £24.95. Rainbow can be contacted on 01-621 5170.



• Core Electronics is launching this "sophisticated" screen dump program for the ST at £25. *Rescuing* can dump a whole screen, take a small part of it only, or magnify or reduce specific parts of the screen. The firm says it'll produce good prints on even the most complex games. *Rescuing* works on Ecom-compatible printers. More info on 0923 672182.

"You've been a better Club Secretary since we bought you a typewriter, Jim"



HOME PORTABLE TYPEWRITER

Assembled in Great Britain by British Labour
(P) 9-8 cash

TIMES HAVE CHANGED... But the problems haven't

There was a time when all you needed to create the right impression was a good typewriter. Times have changed since Jim got his Home Portable, but the problems are still the same. From multi-national companies to the local squash club, everyone wants their printed material to be the best.

Until now Jim wouldn't have had much choice. He could do the job himself on his trusty Home Portable - or his word processor - or put the work out to a design studio and have it typeset. And he'd pay the price - with low quality or high costs.

Now there's a new choice. One that gives you the quality you'd expect from a studio, at a price less than some people might pay for a word processor! Timeworks Desktop Publisher turns your PC and printer into an instant electronic printshop.

What's even better is the unique blend of publishing power, versatility, and ease of understanding that Timeworks Desktop Publisher gives you. And there's

a Guided Tour tutorial to get you up and running in under an hour! No need for sophisticated hardware either. Timeworks Desktop Publisher works equally well on a 512k twin floppy PC with a 9-pin matrix printer, or the latest 386 PC or PS/2 driving a Postscript laser printer. So you don't need to throw your software away when you upgrade your system.

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"To my mind its ease of operation and flexibility probably make this the most powerful DTP package around".

Clare Mathewson, *Australian Professional Computing*, September 1988

"The software supports all the major features offered by Ventura, plus a few more... Timeworks DTP seems to represent remarkable value for money".

Desktop Publishing, March 1988

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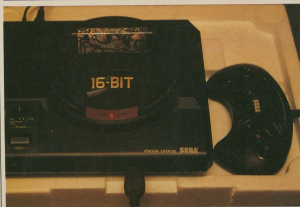
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SCORE

First pictures and exclusive review of Sega's sensational 16



New Computer Express has laid its hands on the **Sega Megadrive**, Japan's first new-wave console. Games freak **TONY TAKOUSHI** was there at the airport to collect the courier's carry-all, and brought it down to our offices for the first hands-on test in Europe. **ANDY STORER** helped him unpack.

Take a look at this software!

Three screens from Space Harrier 2 show what the Megadrive can do.



In Tokyo, the initial production run of the world's first 16-bit console sold out in a matter of days. After two years of project development, Sega Corporation has beaten the likes of Nintendo and NEC to present the cartridge-crazy Japanese market with this designer-chic console not much bigger than a portable CD player.

You can hook up the matt-black Megadrive to your TV via its aerial lead and play state of the art arcade action games from your armchair, listening to its digital quality sound through your hi-fi or headphones. It'll take existing 8-bit format Sega cartridges but only after you've paid £20 or so for an adaptor.

The console deck consists of a cartridge port mounted on a thin spherical dome under which is housed the hardware. Bottom left are switches for power on/off, headphones/stereo output volume and RAM reset. Underneath there's a compartment intended for unsuspected future expansion - whilst round the back are power input and A/V output along with an extension port. It's also open to speculation what this may be intended for, but it looks like there are enough lines on the interface to support a keyboard, lightgun or 3D glasses. Along the front is a stereo headphone jack and two joystick ports to take the smooth, two-hand joypad control devices - one of which comes bundled.

The lightweight joypad features an eight-way button-press movement controller on one side with a start/pause button immediately above

POWER!

16-bit console

a bank of three fire buttons on the other. Control is extremely responsive and the hand-set designed to fit snugly into the palm.

All you'd really need to go fully cyberpunk would be a neutral jack input to connect it to a rack stand, because once you're up and running the world outside stops.

Space Harrier 2 looked more than stunning - we were left wondering how such massive full-length screen sprites could be shifted at ultra high-speeds without any discernible loss in the vivacious of other animated objects. Even through RF leads, animation was flicker free.

These impressive visuals aside, the feature which knocked us out the most was the perspective change when the flying character rises into the sky. The ground falls away beneath you and the horizon drops accordingly to give you a true per-

spective viewpoint. It sounds simple enough, but try getting any other 16-bit computer to handle that information without stalling on speed. Until the uncharted areas of the Amiga's hardware are more extensively explored you won't. The Sega Megadrive is straight out of the future.

Expected to come in at nearly £200 when it hits the UK, it's probably still a bit of a satchel near Christmas - and judging by the Japanese reaction and the quality of the Space Harrier 2 cartridge we saw, it'll be a winner worldwide too. ■

How much and where?

Sega's UK distributor, Virgin Mastertronic says the Megadrive will arrive in the UK next September and sell for around £200.

If you can't wait that long and fancy being the coolest dude on any block outside Japan, you can pick up the Sega Megadrive for only £35 in Tokyo. The return airline's about a grand thought.

The games cartridges sell for £25 in Japan - at the moment there's only Space Harrier 2 and Super Thunderblade available, but enhanced versions of Afterburner and Outrun are shortly to be released. By the time the games wing their way over here they'll probably cost you £30-£35.

The works

Driven by a 68000 central processor running at 8 MHz tied in with a 4 MHz 230 and a huge customised video chip, the Sega Megadrive pumps out a palette of 512 colour, RGB quality graphics. With 64K of Video RAM, feeding the screen with 64 colours at any one time, and FM stereo output, you have a deck able to deliver all the audiovisual speed and power of an Amiga and more.



The competition lines up

By next summer, the console war will have really heated up. Here are the machines the new Sega will be up against.

Nintendo 8-bit System

• Standard Model £129.95

Console, two game controllers, TV connector, Super Mario Brothers Cartridge game.

• Deluxe Model £189.95

Console, RGB Robotic Operated Buddy robot, light gun, two game controllers, TV connector, two Cartridge games.

• Software

Cartridge Around £25
Wide range of games software available in Japan, but only a limited number are released in UK.

• Visuals

Resolution 256 x 240
Palette 52
Display TV Only

• Audio

Sound channels 3
Stereo No

Sega 8-bit System

• Master System £79.95

Console, two game controllers, TV connector, Hang-on Smart Card game.

• Master System Plus

£39.95

Console, Light Phaser, two game controllers, TV connector, Safari Hunt Cartridge game, Hang-on Smart Card game.

• Super System £129.95

Console, 3D glasses, Light Phaser, two game controllers, TV connector, Missile Defence Cartridge game.

• Software

Cartridge £19.95/£22.95/
£24.95/£29.95
Smart Card £4.95

Good selection of games available, usually the best 8-bit conversions of Sega's arcade coin-op games such as Out Run, Afterburner and Murder Boy.

• Visuals

Resolution 256 x 192
Palette 64
Display TV only

• Audio

Sound channels 3
Stereo No

Atari System

• Atari 2600 VCS £49.99

Console, Joystick, TV connector, 5 cartridge games.

• Software

Cartridge £10 - £20

Probably has the widest range of con-

sole games available, although many games are starting to show their age (most of them produced in 1979-1983). Fortunately a few games are still produced on it - like Egg's Summer Games, Weller Games and California Games.

• Visuals

Resolution 160 x 192
Palette 16
Display TV Only

• Audio

Sound channels 3
Stereo No

NEC PC Engine

Not officially available in the UK, although some retailers are importing RGB monitor versions over here for about £175. No details from NEC themselves as yet.

• Software

Cartridge £25-£30

Only a few games available in Japan at the moment, but they include an incredibly accurate conversion of Irem's arcade coin-op R-Type.

• Visuals

Resolution 320 x 256
Palette 512
Display TV or Monitor

• Audio

Sound channels 6
Stereo No

Konix Console

Due to be launched early 1989, priced around £150.

Reported to be a 16-bit console with better speed and audio-visuals than the Amiga. Will come with a three inch double-sided disk drive, but will also include the usual cartridge option.

Atari ST Console

Due to be launched sometime in 1989, priced at £399.

Will come without keyboard or disk drive, and will run games software using cartridge format (no ST games are currently available on cartridge).

Amiga Console

Commodore is believed to be launching a console based on the Amiga - no details are currently available.

Nintendo 16-bit console

Nintendo is reported to be working on a 16-bit console, but again there are no other details available.

Chuckie Egg

ARCADE STYLE GAME

from one to four players. Who'd have thought a country farmyard could be so stressful? You must collect the eggs before the nasties get out and eat up all your corn. Watch out for the crazy duck - if she gets out of the cage, you're in real trouble! You must collect all the eggs to proceed to the next screen. Look out for hidden eggs!

CONTROLS

Select your own keys or joystick. Full instructions included in the program.

GAME PLAY

The game plays over 4 groups each of 8 screens which become progressively more difficult. Survive all 32 screens and the speed then increases to present

even greater challenges. The game will play an indefinite number of levels. There is no limit to the high score table!

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RIPOFF! The savage war against copy-cat software

With Medingenic's R-Type soon to be released, the firm's boss **ROD COUSENS** talks to *Express's* **COLIN CAMPBELL** about the legal action against the game's clones.

EXPRESS: Given that there are as many similar games around, how can you stop people ripping games off? How can you judge a case of 'look and feel'? Where do you draw the line?

COUSENS: You're legislating to something that is in someone's mind. We can look at two similar games and make a defence for one by pointing out the differences. That's what makes it difficult—but you bloody well know that can't be passed on from the other. You can't give up though because you have to believe that in the business of time you will be protected. The battle's not been won in other industries but there have been strides forward and progress as been made.

But isn't ripping off simply the unfortunate wages of talent and originality?

Yes, but you can be a lot more receptive to copying if you've been rewarded in the first instance. But if you haven't then you become bitter and twisted.

By stopping games from getting to market aren't you limiting people's choice?

No, it means better choice. Our action against US Gold involved Geoff Brown picking up the telephone and explaining. He regretted it and I think he would admit that. He took the view that Gold, like Activision, Caves, Telesoft, and everyone, have to go out and secure licences and have to defend them as an individual or by joining with other

publishers.

People want R-Type because it's an arcade success. It means something to have the title which ultimately you're paying for. I don't think that the consumer suffers in any shape or form. In fact, I think they're spoiled for choice.

What if a small software house had come up with a game similar to R-Type? It wouldn't have been able to fight any action brought about by you for fear of going bust?



• Rod Cousens: 'The value's in the original'

There is an argument that says the big companies can use the legal system to their advantage in as much as they can chuck money at it. But there is also the view that smaller companies are afforded better protection because the judges are conscious of this. If you bring an injunction against a small publisher just for the hell of it that may work against you because you may leave yourself open to a claim for damages. The larger you are the bigger claim you're exposed to.

If copyright and the question of 'look and feel' is ignored what is the long term damage to games software?

You have to forget the software publishers. It's the programmer's livelihood you have to look at. You may take nine months programming but the thought process may have taken three. You've produced this work of art only to see it blatantly ripped off under a legal system which is, as yet, far from clear. It denies you a livelihood and that's unreasonable.

You've come up with the most innovative design in the world only to see it ripped off a month later. All that work you've put in and someone benefits of ideas comes along and changes it because they can always improve something after the event. The value's in the original but if that happens to you, you'll say 'well this' and you'll go off and do something else.

That deprives the industry of the talent which we depend on. This is what's wrong and that's why we need to defend them. There are lots of good programmers who can get a nine to five job in IBM but they choose not to because they're creative. But if you're not careful they'll just walk away.

In this industry, which is so creative, we have to defend talent and give it resources. Some kid can walk in off the street with some game. You stick it in and load it up and you say 'wow'. We need to encourage and protect that. Otherwise, why participate in the software industry?

You've obviously drawn the battle lines and Katakis were over them. But others are they?

The battle lines are dictated by financial cost. There is little point in

us going to court to lose. There has to be a case for it in the eyes of the judge. This can't be done lightly because the legal system won't allow it.

What about the argument that it's too hard to police because there are only basically seven games in the world anyway?

No more. If you jump into a car it has to have a chassis. A game has to have a basic foundation. You build something on that which is different from anything else. That's what makes it original and exciting. When you develop a game you're bound to a basic, say, sideways scrolling. But the theme and concept is entirely different.

If companies are going to start accusing each other of infringing 'look and feel' won't there be absurdities? And won't it become a forum in which to settle old scores? That could be said but litigation is a very costly exercise. Those that want to fight personal battles by way of seeking ownership through litigation should see that it makes little sense. You must avoid litigation at any cost. That can only be a last resort if there's a breakdown in communications. I don't worry about people going hell bent into court because I don't think it will happen.

What is 'look and feel'?

Software houses have severe problems in arguing that one of their products has been ripped off. The alleged clone will have been produced by different programmers and the program code may well be totally different. So the argument boils down to saying that the 'look and feel' of the clone is very similar to the original.

This is where the difficulties begin. It is very hard to define 'look and feel' and there is a clear dividing line between the ripping off of an idea and the developing of an established theme. The courts, in time, will have to decide.

So what is the answer?

People should talk to each other because there is little to gain from litigation unless you're a lawyer. The two sides should talk. We would pick up the phone and say 'hey, that's enough'.

I did it to *Thalassia*. In my view the originality of *Armadillo* is questionable. I wasn't looking for an argument. I just told them to make sure the game wasn't like R-Type or I may have been forced to do something. They assured me that it was different enough and I accepted that. We don't want to be facing each other across a courtroom being represented by lawyers. •

The curious case of R-Type and Katakis

Activision had licensed the coin-op hit R-Type and labelled it as for a pre-Christmas launch. Cousens then found out that US Gold was planning a similar style game for release in October. Activision swooped on US Gold in late September and demanded that Katakis be buried immediately. Gold, with a legal gun at his head, complied. Katakis was never launched. It has been suggested that Cousens left his attack until the last opportunity in order to inflict the most damage on its rival.

COUSENS: That is absolutely not true. Neither Geoff Brown (US Gold's boss) nor myself need to conduct a campaign or vendetta. We're big enough to phone each other up to prevent matters coming to a head. His apparent non-response about Katakis though was that he was on holiday and so when he came back he was faced with legal action. And that may be.

But we acted before Katakis was published. If we'd waited and then issued a writ the Geoff Brown's damages would have been even more substantial. We knew that Katakis existed and we looked at it at the first opportunity.

The nub of the argument

If you're planning to buy R-Type ask yourself these two questions:

1) Given that Katakis and R-Type are potentially similar (some would have called them the same game) would you buy both?

2) If you had bought Gold's Katakis in September would you be buying R-Type over the next few weeks?

Cousens reckons that if Katakis had hit the streets at least 20,000 punters would have answered no to both questions. If so, he reasons, Activision would have been deprived of £80,000.

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Great Giana Sisters	24.95	16.50	Panic	19.95	13.50	Turbo	9.99	7.50	Sage Accountant	171.95	148.50
Golf of Thrones	24.95	16.50	Pearl Beach	24.95	16.50	Typhoon	19.99	13.50	Sage Accountant Plus	229.95	179.50
Golfing	24.95	16.50	Phoenix	19.99	13.50	Thundercats	19.95	13.50	Sage Bookkeeper	113.95	85.50
Gambler	14.95	10.25	Pink Panther	19.95	13.50	Time and Magic	19.95	13.50	Saved	29.95	21.50
Guardian	24.99	16.50	Platoon	19.95	13.50	Time and Magic	19.95	13.50	ST. Data Manager	79.95	68.50
Get Doctor 2	19.95	13.50	Pluto	19.95	13.50	Time and Magic	19.95	13.50	ST. South Cal	79.95	68.50
Gold Dragons Domain	19.95	13.50	Pool Of Radiance	29.95	16.50	Torment	19.95	13.50	ST. Word Writer	79.95	68.50
Games Winter Edition	19.95	13.50	Power Play	19.95	13.50	Torment Encounter	14.95	10.25	ST. Director	19.95	13.50
Garion	24.95	16.50	Prodigy	19.99	13.50	Torment	24.95	16.50	ST. Replay	79.95	68.50
Gary Linkers Hot Shot	19.95	13.50	Project Stealth Fighter	24.95	16.50	Torment	24.95	16.50	Super Conductor	49.95	32.50
Gary Linkers \$50,000	19.95	13.50	Project Mach	9.99	7.50	Torment	19.95	13.50	Superior Personal	99.95	72.50
Gateway 2	19.99	13.50	Powered Hearts	29.95	19.50	Torment	19.95	13.50	Timeworks DTP	99.95	72.50
Get Back Air Rally	14.95	10.25	Power Struggle	14.95	10.25	Torment	24.95	16.50	Timeworks Partner	49.95	32.50
						Uninvited	24.99	16.50	Timebase	89.95	72.50
									Timebase Professional	199.95	148.50
									Word Perfect	279.95	175.50

WHAT YOU THINK OF US

SPOT THE LINK

SHEER UNALLOYED ENTHUSIASM

I bought your magazine reluctantly, as in the past I have accumulated a vast pile of computer-related mags that started off in the right direction. But as time passed, they not only graduated into mere pages of games reviews, but included in price regularly until they reached what seems to be a standard price for this type of publication, ie £1.95.

Moreover, the standard of the format and layout deteriorated greatly. The indexes were incorrect, page numbers to articles were the wrong ones and pages that contained adverts were not numbered (so that it is difficult to find a specified page). So I decided to cease liking the pockets of greedily and unprincipled publishers.

Another criticism is the quality of spelling and grammar of all publications in the present day. Whilst I am in no way a scholar (I left school at 14 years), I can read and write with reasonable accuracy. I would expect that a publication put out for sale to the public could attain a reasonable standard of the English language, without the many mistakes found in all the printed matter one attempts to read today.

So, having reluctantly purchased your first and second offer, I

offer you these comments in the hope that they will not fall on barren soil. Should the present style and price of your mag stay stable, or indeed improve, I miss nothing to buy it. The ball, as it were, is now in your court.

To conclude, I wish you every success, and predict that if you follow the aforesaid guidelines, the resulting increase in your circulation will be assured.

Robin Lanning, Hull

✓ Congratulations – you have won this week's Mystery Prize. We were going to send you a free subscription to Express, but you might well regard that as a ploy from an unprincipled publisher. Instead, we'll send you a sub for one of our mags, to show you just how bad life can really be.

No doubt we've fallen foul of many of your criticisms already. All we can say is sorry – sorry we're sorry. We can't do much more than apologise. (We can't do much more than apologise.)

MY TYPE

I think that New Computer Express is far better than the others. I have only one complaint: there was far too much space wasted on the A-Type review.

Ned McEwan, Gooles

✓ This is about one we've got more complaints than that.

BULLETIN CALL

I must compliment you on the standard of New Computer Express. Future Publishing is keeping its standards level with the excellence of 80000... Could I make a suggestion?

Why don't you have a regular page devoted to bulletin boards and suchlike? I am sure your readers will appreciate it as much as I would.

Andrew Long, London E8

✓ Questionnaire bits

Here are a few comments and suggestions from the hundreds of questionnaires replies you've sent us:

✓ Less about Alan Sugar. He's nothing about Alan Sugar.

✓ How about enlarging the wordings?

✓ Keep the print size the same.

✓ The 'Astounding Advice from the High Street' in your buyer's guide was really funny. Try having similar articles in future.

✓ Introduce a Business/Graphics section (a 'slightly serious' section).

✓ Like the beginners section.

✓ I don't think you need to improve it – for the price, you've got the balance right.

✓ It's good to see the QL area. Despite Amstrad, the QL

refuses to lie down and die and it still knocks spots of most other computers.

✓ More in-depth games reviews for 16-bit machines.

✓ Less games. There is plenty of mindless drivel already for people with negative IQs.

✓ Apart from a slightly over-floppy approach which is humorous at first but is liable to become wearing eventually, I congratulate you on a well-presented and interesting magazine.

✓ I enjoyed the quotations in the news section and the 'Type Springs Eternal' in PSoft.

✓ The article on PC Graphics was a splendid example of good journalism.

✓ Two things simple. Don't be excessively negative.

✓ Really go to town on software houses who consistently bring out sexist/violent games.

✓ Less news type stories.

✓ Expand your news coverage. It's great.

✓ I think you have a winner cos it doesn't make my pocket much thinner.

✓ Thanks for an excellent value for money weekly – far better than the competition!

MSK!tic

Well! What! What! that a naughty thing to say! About what you printed in the unlikely small PSoft section on page 62 of issue 1. You said: "I just hope you're not in thinking there's another MSX owner out there to read it."

That was a bit MSK!tic, wasn't it? I am the very proud owner of a Sanyo MPC 100 MSX. But I never use it. I'm always making games on my Spectrum +3 (how nice).

Before I go, I must congratulate you on releasing such a high-quality bulletin mag, and congratulate Eric on their totally brilliant (and reliable) on the Spectrum 128. Overload. My 15 score is 12/200.

Ronald Stirling, The Core, Carnoustie, Glasgow

✓ The experience of the past few weeks has taught us that there is indeed more than one MSX owner. All 14 have written to us.

MSK!tic

I'm looking for an address of a firm that sells games cartridges for the MSX by mail order, and wonder if you can help as I can't find a shop in Basingstoke that stocks them.

R. Carpenter, Basingstoke, Hants

✓ For best option is to scrutinise the advertisements in Express. And look out for some major games titles on MSX this Christmas.

MSK!tic

Perhaps a belated congratulations on your new weekly is in order. What caught my eye was those three little words: MSX (Mando) – Ed. At last, someone to catch up on aspects of news regarding this machine.

Big business, it seemed to me, strangled the MSX to please keep up your deliveries for us owners and please MSX owners support this paper for its efforts.

Having got that off my chest let me introduce myself. I'm a pensioner of 69 who only dabbles with a computer to keep the old grey matter working so please don't let your paper get too technical. And don't let me quarrel with these awful observations that we are bombarded with these days.

One last thing. Come on you advertisers. Don't be afraid to say you sell MSX software or any hardware you have.

1 Eastop, Street, Somerset

✓ MSX wasn't really strangled by big business, you know. It achieved its own quite spectacular commercial death all by itself. And when you're talking about big business, they scarcely come any bigger than the Japanese! Concerns behind MSX in any case.

Whatever, it's still got 45 adherents so we'll still continue to cover it. Let's just hope that there aren't too many more MSX letters, or else we'll run out of our supplies of appalling MSX puns.

at home Amiga-style

Finally, Peter, yes we will do our utmost to keep the dear advertising at a decent level. That's why we employ an advertising department. ●

82" RFGs, PMAs, etc). Both your weekly competitors have such a feature.

Advertising may be a minority interest, but it is a dedicated minority interest and we have always been surprised at the large numbers of readers who buy magazines and only read the regular advertisement pages.

2. An "at-a-glance" listing of all new releases and conversions would be very handy and time-saving.

HJ Mueller, The Adventurers Club, London NW2

✓ There's no reason for Express to increase its cover price, rest assured. It may well represent quite an extraordinary bargain, but that doesn't mean that we have to inflate the many thousands of current readers by upping the charge after a few weeks. 45p it is, and 45p long shall it be.

One of the reasons for running the questionnaire 70th week was to find out what we're lacking and it is more than conceivable that an adventure career could yet make an appearance. Other things have happened like the boss of an advertising company cancelling an order for a mag with an advertising column in favour of one without.

The games listing is currently being discussed. For a thing to justify its existence, it needs to be definitive both in scope and in content. The trouble with the latter is that it is not unknown for software houses to encounter the occasional local difficulty in getting

games out on time...

SIDE SKIT EVERYTHING

Over the past few years there has been one thing that has puzzled me more than anything else: the 3-inch disk drive. Am I alone in this?

Amstrad surely introduced it after the introduction of the 3.5" drive. Why? This obscure format suffered from availability problems and costs double that of 3.5" disks.

Now you announce that Kana will be using a 3" drive in their console (Express 25, again, why? It seems incredibly stupid. Is half an inch in space really that valuable? I'm dying to know why they've done it, but it's beyond me...)

I'd also be interested in any news of the Plus. The Net Prestel has been buzzing with various prices and technical specs and a repeated release date of Feb 1st '89, priced at £399.

Finally, I would like to congratulate you on producing two fine issues. I have long been dissatisfied with your competition, and I hope you maintain your quality. Just increase the news, letters, and keep the dark advertising to a decent level.

Peter Baldwin, Maidenhead, Berks

✓ One thing you have always to remember about this market is that Amstrad is wholly a law unto itself and see Milton Post's running series for further proof.

The conventional view is that the firm is little more than a fowler where other lead – more of Japanese in

philosophy than European. Yet there's more to it than that, and it's called economics. Amstrad's use of 3" drives on the PCW was scarcely conventional (despite with CP/M, but that's another story). But because the 3" standard had failed, Amstrad was able to buy up a huge number of these drives at a rock-bottom price (probably less than \$10 each). This meant good news for the price of the finished computers: less good for the cost of the disks themselves.

Thereafter, using 3" drives for the Spectrum +3 had more to do with the firm's over-capacity than it did with any intrinsic regard for the size. It still appears to have been a fundamental mistake, however.

As for Kana, the firm is in the uncomfortable position of not being able to comment publicly on its forthcoming wee beastie. Express's exclusive notwithstanding. Analysis of disk size is thus a little difficult. All will be revealed in the new year.

And there there's the ST Plus. The worldwide exclusive details of its existence, spec, and planned prices were first unearthed by a character who now works for Express. Rest assured that those qualities will mean that Express will be first with the news about the Plus. Some pointers: don't hold your breath for February 1st, yes, it's planned to be £399 – with the original STs probably dropping to £299 (bundled) and £199 (standalone); it'll have 4,096 colours and both vertical and sideways scrolling; and

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64Mb	£929	£1199

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20Mb	£719	£849	£969
32Mb	£749	£879	£999
40Mb	£829	£959	£1079
64Mb	£949	£1079	£1199

PB286-10 8/10 Mhz
1.2Mb floppy enhanced keyboard

	Mono	Colour	EGA
20Mb	£1199	£1329	£1469
40Mb	£1309	£1439	£1579

Disk Drives up to 240Mb - Telephone

OTHER COMPUTERS

Commodore PC10/20
SCSI Drive, AT-style, K6
Tel for prices

Hyundai PC 10 Mhz
Same price as Amstrad 1640

OPUS PC3 - Telephone

SBC computers - Telephone
ATARI PC2 and PC3 -
Telephone

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PRICES CORRECT AT TIME OF GOING TO PRESS

THE PC SHOPPING NIGHTMARE

You can avoid it with, this exclusive buyers guide to Britain's top-value IBM-compatibles

There are few more difficult tasks than buying a PC-compatible. It's rather like one of those Mensa tests where you have to spot the logical relationship between six confusingly different pictures.

Taken a step at a time, you might be able to choose between 8088 and 8086 processors, 512K and 640K of RAM, between mono and colour displays. But the choices pile up, and manufacturers insist on offering ever-so-slightly different configurations.

How do you choose between 512K and colour, or 640K and mono? Which is better: twin floppy disk drives, or an extra two or three expansion slots? Does a free mouse make up for the absence of an RS232 interface?

When you start to take pricing into consideration, the fog of despair settles and you could be forgiven for simply buying the first machine you find in a High Street shop window.

We decided to take a more considered approach.

Cutting through the fog

To help us make a choice on a more rational basis, New Computer Express developed a way of rating every commonly-found feature in PC hardware for desirability. By comparing the total desirability rating with price, we were able to determine exactly how attractive each purchase would be.

Not all machines qualified – quite a few failed to meet our minimum spec of 512K RAM, single floppy disk drive, one parallel and one serial interface, and a number of other descriptions. Some manufacturers even make you buy the MS-DOS operating system separately (an odd approach to PC compatibility).

A few more quickly fell by the wayside – would you buy a machine that had half the features of an Amstrad at three times the price? That left a few



handful contenders and these were slowly winnowed down to a shortlist of about 25 machines in some 70 different configurations.

These machines were then awarded ratings in the following categories:

Power	20pts
Storage	25pts
Display	15pts
Expandability	10pts
Usability	35pts

The sum of these five ratings gives a Total Desirability Score out of 100.

There are built-in biases in these ratings: a hard disk is rated more desirable than VGA graphics; the Power rating combines processor and RAM because a slow processor with lots of RAM is as useless as a superfast processor with very little RAM. Usability gives the lion's share of points because it covers a lot of details: built-in interfaces, extra like mice and extended keyboards, and bundled software.

The Express Value Rating, or EVR, is calculated by comparing the Total Desirability score with the machine's price. The maximum EVR of 10 is equi-

alent to an imaginary perfect machine (with a total Desirability rating of 100) selling at an unbelievable price of £1,000 (impossible, but then perfection is supposed to be like that).

Six PCs came out remarkably well with EVRs ranging from 7-9. Full details on all six are printed on the next two pages.

The machine which came closest (with an EVR of 9) is a long way from perfection, but then it's also a long way from £1,000. (Incidentally, we estimate on a similar basis that the Acorn 1040ST with colour monitor also comes up with an EVR of 9.)

Take your pick

Choosing your own personal winner depends on your answers to two questions:

How much can I afford?

If you're on a limited budget then the Olivetti or Commodore machines are your best bet. The Italian job has a definite edge, but when you add in the VAT it will cost around £100 more – not much but it could be the deciding factor.

It may seem that there's an unaccountable jump in prices of the selected machines from £450 to £750, but remember our winning machines are based on value for money, not cost alone. If you want a mid-price machine, consider the Amstrad 2086 with mono monitor – pretty good value at £590.








What do I want to do with it?

Our six winners cover just about all eventualities. The Olivetti and Commodore machines are perfect for home use, the Amstrad 2086 will handle any application that isn't too demanding, while for tougher tasks – serious business use or heavy-weight programming – look at the hard-disk systems, the Elonex and Advent machines, or our only AT-compatible qualifier, the Amstrad 2286.

The big losers

The question on everybody's lips is: what came out as the worst-value machine? A lot of competition here – it could have been the £1,799 Hewlett-Packard Vectra, or the Canon AS2002 at £1,595, or even the £1,695 Haaseywell-Bull PCXP. But the hands-down winner is a well-known German manufacturer offering what is almost a cut-down Commodore PC1 for the bargain price of £2,990 – an EVR of 0.9. Let's hear it for Nixdorf!

RATINGS and WEIGHTINGS: a unique

	Commodore PC1 	Olivetti PC1 	Amstrad PC2086 
PRICE <small>The list price, as VAT, for each model in the configuration described. We have picked the configurations we consider best value.</small>	£315	£399	£749
POWER (rated out of 20) <small>Covers the power and speed of the central processor and the amount of memory available measured in KiloBytes (K).</small>	<ul style="list-style-type: none"> ● 8088 processor running at 4.77MHz ● 512K memory expandable to 640K on board 3	<ul style="list-style-type: none"> ● 4.77/8MHz 8088 ● 512K expandable to 640K on board 5	<ul style="list-style-type: none"> ● 8MHz 8086 ● 640K 10
STORAGE (out of 20) <small>What type of disk drives are included. Two floppy drives are better than one and 3.5" is better than 5.25". Best of all is a large hard disk.</small>	<ul style="list-style-type: none"> ● 1 x 5.25" 360K floppy 4	<ul style="list-style-type: none"> ● 1 x 3.5" 720K floppy 10	<ul style="list-style-type: none"> ● 1 x 3.5" 720K floppy 12
DISPLAY (out of 15) <small>The graphics modes built in and the monitor supplied for the price quoted. Hercules is highest; HiVGA, CGA is a simple colour (and lower) model; EGA better colour, VGA best of all.</small>	<ul style="list-style-type: none"> ● CGA adaptor, mono monitor 3	<ul style="list-style-type: none"> ● CGA display, supplied with mono monitor 3	<ul style="list-style-type: none"> ● VGA-standard adaptor, hi-res colour monitor 5
EXPANDABILITY (out of 10) <small>The number of slots available for expansion cards (such as hard disk cards or modem), and the facility for adding other peripherals.</small>	<ul style="list-style-type: none"> ● Capacity for external floppy and hard disks ● Single slot for PC 1	<ul style="list-style-type: none"> ● expansion cards ● 2nd floppy drive, or 40Mb hard drive available ● Colour monitor optional 3	<ul style="list-style-type: none"> ● 3 x standard expansion slots ● 2nd floppy disk or hard drive 5
USABILITY (out of 30) <small>Covers all other features supplied with the machine which improve its versatility.</small>	<ul style="list-style-type: none"> ● 1 x parallel printer interface ● 1 x serial printer/modem interface 11	<ul style="list-style-type: none"> ● 1 x parallel printer interface ● 1 x serial printer/modem interface ● First Choice integrated software package - word-processor, database and spreadsheet 16	<ul style="list-style-type: none"> ● 1 x parallel printer interface ● 1 x serial printer/modem interface ● Mouse ● Expanded keyboard 21
TOTAL DESIRABILITY SCORE (out of 100) <small>The total of all the previous ratings.</small>	23	37	63
EXPRESS VERDICT <small>How it stacks up overall, what it's best features are, who it's aimed at.</small>	<ul style="list-style-type: none"> ● Rather limited, even in comparison to the Olivetti PC1, Commodore's entry-level machine lacks any internal expansion possibilities, and features the original, slow processor of the IBM PC. ● However, it's priced accordingly and is almost certainly the cheapest PC-with-monitor available in the UK so if you want bare-minimum PC-compatibility without paying much, this is the machine. 	<ul style="list-style-type: none"> ● Although technically limited, the Olivetti's low-price makes it unbeatable value for money. The 720K floppy disk provides the equivalent storage of an older two-disk PC, and the inclusion of the First Choice software means you can put it to use straight away. The expanded versions score a slightly lower VFM rating, but if you think you might want colour, you'd be well-advised to buy it immediately - second-hand mono monitors are virtually worthless. 	<ul style="list-style-type: none"> ● When Alan Sugar announced the PC2000 series, many observers lamented the lack of an earth-shattering price. But the machines still represent good value for money. ● The 2086 may not have a super-fast processor, nor the high-capacity hard disk many businesses will require, but it is a capable system and there's the filip of future-proof graphics. With the 2086 you get VGA at the price many rival manufacturers are asking for EGA.
EXPRESS VALUE RATING <small>Total Desirability compared to Price.</small>			

evaluation of six top-value PCs

Elonex PC88C



£775

- 4.77/10MHz 8088
- 640K

9

- 1 x 5.25" 360K floppy
- 1 x 20Mb hard disk

18

- 1 x 5.25" 360K floppy

- Hercules-compatible, with mono monitor

4

- 4 x standard expansion slots

6

- 1 x parallel printer interface
- 1 x serial printer/modem interface
- Mouse
- Gam x3 with 1st Word and Gem Paint

21

58

- A business system offering very good value for money. The fast 8088 processor, coupled with the 20Mb hard disk and Hercules-standard graphics make it a good choice for serious word processing and general office use.

With this machine you get a compact design that still allows you space for four standard expansion cards. And the software bundle is reasonable (although a more businesslike package wouldn't hurt).



Advent PCXT 10 Turbo



£995

- 10MHz 8088
- 640K

9

- 1 x 30Mb hard disk
- 2 x 3.5" floppy disks giving a total of 2.88Mb of

23

- EGA adaptor, mono monitor supplied giving Hercules-standard display

9

- 8 x full PC expansion slots
- Colour EGA option (£200 extra)

10

- 1 x parallel printer interface
- 1 x serial interface
- Extended keyboard
- 1-year on-site warranty

18

69

- A fully-equipped business workhorse. Although it's not likely to set many hearts beating with excitement, with a reasonably nippy processor, 30Mb of disk capacity, and either Hercules or EGA colour graphics, it's almost impossible to fault. The one-year on-site warranty will probably convert any doubters among the business fraternity.



Amstrad PC2286



£999

- 12MHz 80286
- 1Mb expandable up to 4Mb on board

16

- storage

13

- VGA-standard adaptor, mono monitor supplied

13

- 5 x expansion slots
- VGA colour monitor (£150 extra)
- 40Mb hard disk (£350 extra)

8

- 1 x parallel interface
- 1 x serial interface
- Mouse
- Extended keyboard
- Windows 286

22

72

- There are cheaper AT-compatibles, and there are cheaper VGA machines, but there aren't too many systems that can give you this standard of computing power at the same price.
- A machine that will see you well into the next decade.



The D-I-Y Option

You can use our rating system to evaluate any of the hundreds of different PC models available.

Simply compare each aspect of your chosen PC with each of the six listed here and award it the same number of marks as the one it is closest to on that aspect.

For example, if it has one 3.5" 720K floppy drive like the Amstrad PC2086, award it 12 points for Storage. And so on.

By adding up the points you can then determine its Desirability factor, and by dividing that by the price (in hundreds of pounds) you can come up with a value rating.

We'd be interested to hear of any PC configurations which come out particularly well or particularly badly!

Write to: PC Comment, New Computer Express, 4 Queen Street, Bath BA1 1EJ.

Where to buy

If you know what you want, the cheapest way of buying a PC is mail order. Check out the adverts in this magazine and remember you can use the voucher on page 41 to obtain a further £10 discount. If you prefer to buy elsewhere, here are the details.

Commodore PC1 - any Commodore dealer. Call Commodore on 0628 770068

Olivetti PC1 - available through Dooms.

Amstrad machines are available from various dealers and Amstrad Business Centres. Details on 0277 228888

The **Advent PC** is available mail order from Vision 011 688 26540. Likewise **Elonex** is sold mostly mail order - call 01 965 3225.

THE WINNER

The Olivetti PC1 comes out of our survey as the overall best buy.

It's ideally suited to anyone who wants to run IBM-compatible software at home or who's looking for a low-cost entry to the world of PC computing.

But even more important than the make, is the need to make sure that the configuration you buy is the one best suited to your needs. Happy shopping! ●

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COMMODORE PC1 SD COLOUR.....	£459.00
COMMODORE PC10 III SD MONO.....	£500.00
COMMODORE PC10 III SD CGA.....	£653.00
COMMODORE PC10 III SD EGA.....	£805.00
COMMODORE PC10 III DD MONO.....	£623.00
COMMODORE PC10 III DD CGA.....	£789.00
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The best Amiga wordprocessor?

Ben Taylor assesses Protext on the Amiga, the latest version of Arnor's old WP fave

Too many cooks spoil the broth, goes the old aphorism, and in the past word processing on the Amiga has all too often been a case of lots of colours and fancy fonts but not much attention to the essentials of getting words onto paper.

Protext began life in 1985 on the CPC, migrating to the PCW in '86, PC in '87 and ST in '88. Now it comes to the Amiga with a reputation as a no-nonsense package aiming to deliver best processing w/ no more taken out.

User Interface

True to its roots on CPC, PCW, PC and ST, you are faced with a screen and horizontal dividing bar. Above the line is the text you are working on, and below is where you type in any commands such as loading and saving files. Pressing [Esc] expands the editing part of the display to the full screen, whenever you can get down to the serious business of punching those queries.

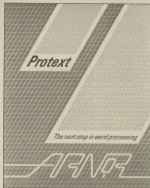
Editing is generally keyboard driven so its [Ctrl]-M to move a block, for example. However, for version 4 Arnor have also put all the commands on standard menus. The program runs as a proper multi-tasking Amiga application.

The interface remains unconventional. You can't open multiple windows (although Protext has two editing screens anyway), for styles, rather than selecting text and choosing bold on a menu, you insert special codes in the text. Another oddity is that Protext ignores all the Preferences primer drivers and uses its own instead. For better control, Arnor say.

Features

Protext is a word processor that you feel the designers have actually used. Of course it's got block copying and moving, of course you can set words in bold, italics and underlined, of course there's a mail merge and spell checker. And there's that. But what makes it so good are the extras. There's a good Undo and a built-in calculator. A unique feature is the Box mode, which lets you to move any rectangular block on screen. Boxes allow you to shuffle columns of tables around or create pages of two- and three-column text - almost DTP-like.

Every command and every keystroke can be stored in a file and executed automatically. You can do things like setting up [F3] to run a



• Protext Amiga showing off its line-drawing capabilities in the top half of the screen, while working on a WAT form below

string of commands to delete the first three characters of each line.

Other goodies include an ASCII editing 'Prog' mode, and the ability to run any Amiga program from within Protext.

Protext's mail merger is very powerful, allowing you to construct complex conditional loops to mailshot only selected people. The spell checker lets you choose between three different dictionaries for speed - but spell checking from floppy disk is slow at the best of times. Unfortunately, memory is too low to run the spell checker from within Protext on an A500.

Protext lacks the ability to import graphics into text files, nor can it access any of the fancy Amiga systems fonts. Thus, Arnor estimate, is the price of its speed.

Documentation

The biggest complaint is that at present the Amiga manual is a PC manual with a few sheets of Amiga-specific addenda tacked in the back flap. Don't we get our own manual for 100 quid then? Having to wade out the MS-DOS commands is annoying, and the Amiga-specific installation instructions are poor.

On the whole, though, the tutorial sections are clear and there is a good selection of appendices to act as the seasoned user's reference guide. All that is missing is a better cross-referenced index. The manuals and on-screen help systems supplements the manual.

Verdict

Protext knows what it does - it doesn't make any attempt to compete with the increasing number of word-processor publishing graphics-based WPs. However, if what you want to do is process forms, then quite simply Protext is the best Amiga Word Processor. But, cheap, why is it £20 more than on the ST?



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Horses for courses

- How well will Protext meet your needs?

- If you're a complete novice on the Amiga, you could be in trouble. Protext's installation process is tricky.
- If you want to be able to use the Amiga special fonts (opal, Emerald etc.) or import graphics, Protext is no good to you.

- But if you're in the business of handling BIG documents or DIFFICULT machines, or in fact for any editing task, Protext is the only one with the power you need.
- If you're a programmer, there is no better editor on the market.

As a test of its speed, we did a Find-and-Replace on a word occurring 207 times in a 6000 word test file:

Protext	Word Perfect	Scribble	Vixenrite
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HIGHLIGHTS

- Superfast editing
- Powerful 'macro' command language ideal for repetitive editing chores
- Comprehensive mail merger and spell checker
- 'Prog' made for programmers' ASCII editing

DRAWBACKS

- A500 can't spell check within Protext
- Can't include graphics or alternative fonts in files
- Not friendly to the beginner

One up on 3.0

The Amiga Protext is version 4 in Arnor's numbering scheme. If you've used version 3 on CPC, ST, PC or PCW then there's good news and bad news. The good news is the enhancements.

- Auto reformatting of text fairly half-hearted though - it doesn't format beyond the current cursor position
- Menu-driven operation rather than control keys
- Footnotes
- Headers and footers up to nine lines each
- A line-drawing utility to let you add boxes to your text.
- Better printer drivers
- Macro record mode - Protext saves what editing keys you press then replays them.

Version 3 has all the features mentioned in the body of this review apart from the ones in this box. The bad news is that if you own a CPC or PCW, you aren't going to get version 4. Arnor reckon you just aren't lucrative enough to be worthwhile. Shame.

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486C147	429	500	500	520	520	520	520
486C148	429	500	500	520	520	520	520
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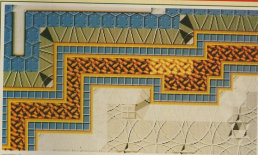
4 HEDONISTS' PLEAS FOR MORE PAINABLE TRUTH

Prestige Software

18 ST. JOHN'S ROAD HAVANT HANTS PO9 3TS

Games meltdown

Seven more releases scurry into the Express bunker this week, headed by Fusion on the ST. Andy Storer dons his radiation suit and sorts the duds from the dynamite...



FUSION ELECTRONIC ARTS

Showing out on the ST after its well-received debut on the Amiga, comes EA's strategic shooter/survivor, with artwork that should feature in the world's art galleries and maddening gameplay that should keep you busy for days. Find and reassemble the parts of a bomb littered throughout the thirteen levels, and evade five types of enemy hiding beneath silos and bunkers. Then blow everything to bits.



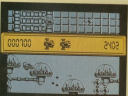
TECHNOCOP GREMLIN

In these 200 mph plus Road Wars, your quest is to eliminate the fiends that are destroying society. Yes - you're a cop. So after driving through endless highways of harpin bends and steep terrain you'll be only too glad when you receive reports of a nearby disturbance on your wrist-radar and pay a visit to the scene of the crime. Then kill everyone you come across.



SANXION THALAMUS

Prokofiev hits the Spectre, with music from Romeo and Juliet to accompany this epic slasher - which surfaced a couple of years ago on the C64 and sold quite nicely, thank you. Billed as the Spectrum Remix, it's a horizontal scroller in which you get to see action displayed from both side and overhead views simultaneously. Don't be disappointed by the (very early) screenshot - colour should be seeing it's way in there nearer to release date.



GRAIL ADVENTURE MICRODEAL

You take the role of Billet here, a wizard searching for the Holy Grail with Gubo, your friend and servant, in the land of Kubar. Of course, there are many pitfalls awaiting you out there, but gameplay is arranged in such a way as to let you define your own outcome to the story. A fully mouse-operated adventure featuring multi-optional dialogue boxes brings a fair measure of interactivity to the standard text adventure and a whole stack of colourful graphics as well.



TINTIN ON THE MOON INFOGRAMES

The first licence based on the Hergé characters, with you playing Tin Tin alongside Snowy the dog, Captain Haddock, Professor Calculus and the Thompson Twins. Battling the effects of weightlessness, you must pilot your spaceship through meteor storms and hostile attacks and attempt to land amidst the craters of the moon.



AIRBALL MICRODEAL

Believe it or not, this time you're a rubber ball. In a 300-room maze you have to find a spell book that'll turn you to human form again. Unfortunately, though, you have a hole, so you have to locate air pumps on your way and fill up - carefully! If you're too long and you explode. Watch out for spikes too! They'll take your breath away. Colourful isometric graphics complete a compulsive adventure for Amiga at-heads only.

This week's sneak-a-peek...

DRAGON NINJA IMAGINE

Available as a free demo with ACE's next issue is the dual-format ST/Amiga version of this martial arts kick-ass-up, and very nice it looks too. Eight levels of agro-acrobatics will see you attempting to total any bad dude that comes within striking distance.



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Battle Ship XXXXXI	18.75	18.75	Goldrunner XXXXXII	14.95	4.45	Phantasia XXXXXVII	14.95	14.95
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Welcome to New Computer Express's games section, the liveliest, most up-to-the-minute reviews for miles. Here's what we offer that other magazines don't. We:

- make sure more than one person sees each game, so that the verdict can be relied on.
- avoid the shoddy practice of basing reviews on unfinished games.
- break up reviews into easily-digested sections relating to scenario, gameplay, graphics etc. - no more hunting to find out what you want to know.
- take version differences seriously. You'll always know what machine the game's being reviewed on, but we'll give you information about other versions too.
- use a simple, no-holds-barred, no fuss star rating system, where only the very best games get the coveted five-star rating.
- give games of particular significance their own box, together with a flash to say what's different about them.

DOUBLE DRAGON

MELBOURNE HOUSE

Spectrum - £9.95c
Also out on C64, PC
Out soon on CPC, ST, Amiga



• Spec - Domination's the name of the game

Double Dragon is a conversion of the immensely playable coin-op beat-em-up courtesy of Melbourne House.

● EXPRESS VERDICT

You'll have to take on the scum of the city in a bid to rescue your girlfriend from an evil street gang in this one or simultaneous two-player kick-em-to-death-evening. You have the usual range of martial arts manoeuvres, ranging from jumpkick to a 'well' and headbutt. As you steam through the opposition you'll meet all sorts of weirdos, such as whip-carrying women, baseball bat maniacs and massive moans - it's a good job you can use these weapons against them if you get the chance!

Visually give a very good account of themselves - with large, nicely defined and animated sprites and accurate representations of the backdrops. The only flaw is that the sprites are not always clearly visible - fortunately, with the speed of the action you hardly have time to notice. The functional soundeffects are less impressive and limited in number.

● C64 VERSION

Oh dear, the programmers have really screwed up with this conversion. You know something's up as soon as you read the instructions, which includes a stinging apology

MICROPROSE SOCCER

MICROPROSE

C64 - £14.95c, £19.95c

Due out on PC early '89

Other versions under consideration

But you'll never guess what Microprose Soccer is all about... Give up! Well it's yet another contender for C64 football sim of the year, only this time, it could actually be the league champion thanks to the talents of the Sensible Software boys - who are also responsible for those other C64 greats: Parallax, Wuball and Shoot'em-up Construction Kit.

● GAMEPLAY

You start off by choosing which type of football you want to indulge in: Association Football or American Rules Six-a-Side (after all Microprose are a yankee-orientated outfit). The major differences in the US version are six-a-side instead of the usual 11 and an indoor pitch which is reduced in size. There are also differences in the regulations governing play and a slightly faster pace. Once the game has loaded, you are faced with the choice of Microprose International League, World Cup Tournament, Soccer League, Two Player Friendly, Demo Game, Control Panel or naming your team.

The first four options allow you to decide on how many players (1-16) will participate in the ensuing soccer action. Demo produces a quick look at a game, for all those armchair soccer stars. The control panel produces a range of options: manual/automatic (player selection during play), weather conditions (switch out for those lightning bolts), banana kick power (save those balls guys!), match length (2-12 minutes), replay (switch those slow motion goal replays on/off), mono or colour display, soundtrack on/off and save/load league placements.

When you actually get down to the action, you're placed on an overhead view of the pitch complete with some fancy soccer moves such as the aforementioned banana kick and a truly impressive overhead kick, as you tackle your way through the big match.

● GRAPHICS AND SOUND

It's refreshing to see a new style of graphical representation on a micro-based soccer game. The usual viewpoint being the pseudo-3D side-on perspective, with arcade-quality overhead visuals. Sprite animation, definition and colour are all superb, although there's not a lot you can do with the graphic design of a football pitch.



• C64 - We've heard of close co-ordination, but this is ridiculous

Audio is of a reasonable standard, containing spot soundeffects ranging from whistle blowing sounds to ball bouncing noises - accompanied by a laid-back soundtrack.

● OTHER VERSIONS

We're afraid other machine owners will have to wait a while, 'cause it looks like Microprose are gonna take their time producing conversions of this one - write in and tell them to get a move on!



● EXPRESS VERDICT

Like believed Commodore's International Soccer to be the definitive football simulation on the C64 - until we saw Microprose Soccer - now we're not so sure. With its hold-up-slapping options, foot-blistering audio-visuals and head-spinning gameplay, Microprose Soccer is an essential purchase for any C64 football fan.

Rik Haynes



• What's the England goalie doing?



• It's a good job England's got Linaker!

concerning the technical faults of the C64 hardware, forcing compromises to be made in the conversion.

In play, the sprites are minuscule and totally out of proportion with the background. There's also a bug which leaves them with a gap in the middle. And these are just minor failings when compared to the awful gameplay - your manoeuvres are completely different to those in the arcade parent. Note to the programmers - try playing the arcade game next time!

● EXPRESS VERDICT

Spectrum DO is far superior to the C64 version, giving an accurate and exciting rendition of the coin-op's visuals and addictive gameplay. It's got a good balance between playability and testing interest, so prepare yourself for some martial arts mayhem.

Rik Haynes

PURPLE SATURN DAY

EXXOS

ST • (24)554

Due out soon on Amiga

This is the second of six projected releases for the coming year via Infogrames/Tre on their new Exxos label and continues the distinctive graphic work of Captain Blood's Didier Desches. As you might expect, the result is bound to look very sexy – and that's before you've even cranked up the volume control.

● GAMEPLAY

Purple Saturn Day is a tournament comprising 4 events in which you compete against one of eight aliens in a knock-out series requiring skill, response, coordination and strategy. You may choose to precede each event with training subroutines against robotic patterns or plunge headlong into the venues for the action – somewhere just off Saturn!

Your first opponent is chosen at random from a range of bizarre creatures, including some of the characters to be found in *Blood*. After checking out your opponent's performance in previous events and his/her/its attributes (strength, intelligence, vision, sense of direction etc) you get down to the real business: Playing games.

Should you choose to try your luck first with Ring-Pursuit you'll find yourself among Saturn's rings, dodging



• The attributes of another alien adversary you're up against

intercomets and satellites as you race against your opponent in a bid to take the lead and thereby score points. Once ahead you can increase your scoring rate by weaving to the right of the red satellites and left of the yellow ones. You move the mouse forward to accelerate, back to brake – though to get ahead of your opponent it's best to veer to the outer edge of the rings and then cut inside for the satellite slalom. After completing a full circuit of Saturn the race is over, your relative scores are noted and it's onto your choice for the next event.



• Baffling brain battles as you charge through cerebral circuitry



• Flaming rings round Saturn as you dodge a passing satellite

"Iron-Slider" is set within a four-sided arena where you're in a baggy fighting to gain energy by firing (clicking the left mouse button) at fast-moving energy bolts before your opponent has chance to hit them and thereby absorb their energy. Movement is effected in the same way as in Ring-Pursuit though this time the arena is littered with an ever-increasing lattice of monoliths to compound difficulty. Fortunately, your craft, which the French programmers nicknamed 'The bar of soap', has hyper-maneuvrability – just clicking the right mouse button while firing will effect a full 90 degree ultra-fast swivel. This time you're both up against a clock – which is just as well since otherwise you could be mis-remembered forever.

Next up is 'Brain Bowler', which is the most taxing of the four events in terms of exercising the grey matter. You're fighting to reactivate one half of an exploded brain by directing 5 charged neural impulses through an intricate cerebral circuit of gates and condensers by firing at various components in the network to open and close pathways you can direct current to the centre of the brain whilst attempting to sever your opponent's connections and steal energy from supply pods. The action here is at once both combative and strategic, and, like every other event in evidence here, so involved it could have been marketed as a game in its own right.

'Time Jump' is relatively (but intended) straightforward by comparison, conforming to a more traditional shoot-'em-up, where you have to blast several series of seven stars as you struggle to control your ship's progress through energy streams in a bid to come first in 'Temporal Long Jump'.

After completing the four events your score is added up and if you beat your

opponent you progress to the semi-final stage where you find yourself up against the winner of another contest. By this time you will find you and your opponents' attributes will have been updated accordingly, as indeed they will be every time you subsequently boot up.

● GRAPHICS AND SOUND

One screen surround, that of your cockpit replete with animated finger movements as you control whatever vehi-

cle you find yourself in, links the visuals comprising each event. Needless to say, this is immediately reminiscent of the ship's interior in *Blood* – emphasis is placed on the blue and purple end of the spectrum – with sub-screens either side showing your position and progress, you and your opponent's scores up top, and the event timer down below. Animated action within this screen is spectacular in all events. In Ring-Pursuit for instance, you have simultaneous independent scrolling of three surfaces along with fast scaling sprites.

Sound effects are not too – with what sounds like digitised speakeffects underpinning every collision you come across. Once again, you're left with a top-notch French extravaganza which, and this should be written in six inch high letters, DOES HAVE GREAT GAME-



• Just about to blast the energy bolt before your opponent beats you to it

PLAY

● EXPRESS VERDICT

Definitely the best game to have arrived at these offices since Express was launched, and easily one of the strongest releases of the year, Purple Saturn Day offers great value for money. Here you have brilliant graphics, solid sound and diverse gameplay all wrapped up in one great package which would take you a journey to Saturn to master. Yep...it's got invidious involvement. And it'll run rings around the competition on release.



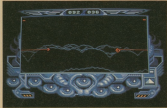
CAPTAIN BLOOD

INFOGRAMS

Amiga • £24.95dk
Already out on ST, PC, CPC
Also on C64
Due out soon on Spectrum

Infogrames' best selling release to date is an intergalactic adventure featuring some of the best graphics and sound available on any format. It's also rare among exploration games in that it includes conversation with a range of animated characters, involves no violence of any kind, and requires flight sim sensitivity in its aerial sequences.

GREAT GRAPHICS!



• Gliding down a canyon on your way to a rendezvous with an alien...

● GAMEPLAY

You've been cloned thirty times, after you built and piloted a prototype bio-tech hyperspace vehicle that had a small accident off Andromeda. You're after five remaining clones hidden across the galaxy, and you're wondering which of the 32,000 planets available they're hanging out on. Fortunately, there's 13 types of aliens you come across down on planet surfaces who, in exchange for various favours ranging from destroying worlds to finding them sexual partners, will provide you with the coordinates of the next stop of your mission.

All operations are mouse and icon controlled. You have a galaxy map and crosshairs with which to pinpoint a destination, and from there you hyperspace to the selected location and dispatch a controllable surveillance vessel to the planet's surface in order to meet the inhabitant. All worlds require low-level flight over mountains, valleys and forests, and you have to locate a canyon at the end of which should be your alien. Using a system of 125 icons you must attempt to glean information from your host who can be very elusive – your approach has to differ according to the character encountered – and you're never quite sure how much they are hiding from

you.

Each new game has a brand new set of inhabited planets, making Captain Blood a long, long venture.

● GRAPHICS AND SOUND

After the superb visuals of the ST version you might expect the Amiga's capabilities to enhance Blood's graphics further. But there's not a great deal of difference – if anything the ST's are slightly better – nevertheless you're talking high-quality. The wireframe animation of the planet surface contours are as just as fast, revolving planet and creature movements identical, and the hyperspace and planet destruction sequences virtually identical.

Where the Amiga version scores over the ST, however, is in the sound effects dept.

All spot-FX and atmospherics are drastically improved and benefiting from stereo output. Disappointingly, Jose Michel Jave's into theme hasn't been lengthened, but what's there is easily the best loading screen music on any game released – (with the exception of the intro to Jedi by GDI on the Amiga).

● OTHER VERSIONS

The Amiga version easily out-classes all others – with the exception of the ST, where it's a close finish. The CPC, C64 and PC releases tag along behind, suffering from their relatively poor machine specs – though the C64 version is a very brave effort. Blood's out on the Spectrum later this month.

● EXPRESS VERDICT

Graphically, one of the prettiest releases on any format, Blood relies on long-term attention. Once you've mastered the flying sequences and icon communication it's down to solving the cryptic puzzles presented by its alien characters. This can be a long drawn out process – possibly longer than its graphic excellence compensates for.



• ...and here he is. It looks like he's got plenty to chat about.

WANTED

INFOGRAMS

ST • £19.95dk
Also on Amiga

Remember Capcom's Gunsmoke arcade game? Well Infogrames obviously does, as their latest release is ever-so-slightly reminiscent of the aforementioned vertically-scrolling shoot-em-up.

● GAMEPLAY

Taking the role of a gunslinging sheriff you'll have to clean up the West by wiping out the wanted criminals in the area – but the higher the price on their head, the tougher the opposition will be. During play you'll travel

through such infamous cliché-ridden Western scenes as the canyon, the railroad and the obligatory ghost town.

Help comes in the form of barrels scattered across the landscape – which, when shot, will give you collectible goodies like extra bullets, dynamite (smart-bombs) and



• This town ain't big enough for the three-and-a-half of us

cowboy boots (speedup).

So hit the shoot-out trail again – but keep an eye on your ammo total or you'll end up feet-first in Boot Hill.

● GRAPHICS AND SOUND

Audio-visuals are best described as simple but adequate – ranging from reasonably well-animated snailish sprites to low-key gunshot sound-effects.

Far from satisfactory is the really awful title page and soundtrack – why bother including this sub-standard trash?

● OTHER VERSIONS

The only other version planned is the Amiga – perhaps the sound will be better?

● EXPRESS VERDICT

Wanted is no more than a simple, although at times annoyingly frustrating, vertically-scrolling shoot-em-up in the Commodore mould – albeit with a new twist in the scenario.

It's probably worth a look if you haven't already got Microdial's Leathernecks or Elite's Ivan Warriors.

Rik Haynes

TRANSPUTER

CRL

Amiga • £19.95dk
Also on ST

Transputer is designed by Clement Jack the Ripper Chambers, and is yet another Breakout clone, seen with a new (but not necessarily improved) pseudo-3D, isometric view of the action.

● GAMEPLAY

Transputer follows the standard route of the genre – you knock out bricks using a bouncing ball which is maneuvered by a bat under your control. You also have a limited supply of missiles which can be used to directly take out the bricks.

Occasionally bricks yield a desirable item such as a larger bat, more missiles or a score bonus. When all of the bricks have been destroyed, you'll move on to the next screen-full, which is basically the same as before...



• You'd be hard pushed to find a worse Breakout clone than this

● GRAPHICS AND SOUND

Suffice to say that Transputer probably offers the worst colour-scheme of any game this side of a ZX81 release, and is perfectly complemented by the amateurish graphic design style employed.

Audio is the only near-adequate aspect of the game, with short and muffled sampled sound-effects and speech extracts used extensively throughout – so extensively you'll probably grow sick of them after only a few games.

● OTHER VERSIONS

ST Transputer closely replicates its Amiga partner – but that's nothing to be proud of.

● EXPRESS VERDICT

Whatever happened to the CRL that produced the classic Tau Ceti on the Spectrum? – it surely must be beyond redemption if this release is anything to go by.

The originality of Transputer comes in the form of total unplayability, chronic visuals and incredible boredom. There's no point in bothering with this sub-standard release, when you could go for Ocean's Arkanoid II on the ST or Microdial's Giganoid on the Amiga.

Rik Haynes

Devpac Amiga Version 2



The Best just got Better!



Devpac Amiga has always been the popular choice for assembly language programming on your Commodore Amiga. When it passed its second birthday we took a fresh look at it and realised there were a few things it didn't do that we, and you, wanted it to. So we re-wrote both the assembler and debugger totally from scratch, allowing us to add features that were not possible in the original versions. We then substantially improved the editor as well to give us an unbeatable combination of features - see the table.

The Editor - true integration

The fast editor is based on the original but with extras like block highlighting, a file requester and the ability to make backups of your source files. The assembler and debugger are both available, instantly, at the press of a key.

The Assembler - no waiting zone

GenAM was always fast but the all-new algorithms means it's even faster, particularly on larger programs. It handles multi-hunk code, 127-character significant labels, local labels, improved macros & conditionals, generates directly executable, or linkable code, and a stand-alone version is included so you can use a CLJ, a batch file or an alternative editor.

The Debugger - kills bugs, dead

How many times do you write a completely bug-free program? Trying to debug a program by looking at guru numbers is what some development systems leave you to do. We include a disassembler/monitor/debugger called MonAM, which uses its own screen display, leaving your program's output alone. It has a range of different types of breakpoints including count and conditional breakpoints. For example you can stop after the 24th call to print or stop if the contents of mem_ptr become odd. You can also break into running programs, or you can even view your source-code files from within the debugger and use multi-hunk program symbols.

Ideal for Beginners & Enthusiasts

The editor is fast and easy to use, you can assemble from memory to memory then execute it repeatedly to try your ideas out, all without a disk access. Press a key and you're straight into the debugger, you can even debug programs assembled to memory with their original symbols. No linking is required - the assembler can generate directly executable programs immediately. Interested in hacking somebody else's code, such as the ROM? - with the debugger you can disassemble to disk with automatic labels, including system calls. All programs will work on a 60-column display.

Ideal for Professionals

If you're not using Devpac for software development then you'd better hope that your rivals aren't either. Why wait for your editor to load a file or for your assembler to churn through it - GenAM is the fastest professional assembler available and is fully source code compatible with the MCC assembler. We write in 68000 assembly language every day so we understand what you need.

Ideal for You

Just compare the specification with any other product and we're sure you'll agree

Devpac Amiga 2 - There is No Competition

	Devpac Amiga 1	MCC Amiga	K-Solo	Devpac Amiga 2
Screen Editor	Y	Y	N	Y
Handles tabs as single chars	Y	N	N	Y
Step through assembly errors	Y	N	N	Y
Automatic backups	N	Y	N	Y
Integrated assembler	Y	N	Y	Y
Integrated debugger	N	N	Y	Y
Macro parameters	10	10	9	36
Multi-line macro calls	N	N	N	Y
Conditional assembly	Y	Y	Y	Y
Case flexible	Y	Y	N	Y
Local labels	N	Y	N	Y
Executable, relocatable code	Y	N	Y	Y
Linkable code	Y	Y	N	Y
Multi-Sections	N	Y	N	Y
INCLUDE binary files	N	N	N	Y
Assemble to memory	N	N	Y	Y
Stand-alone assembler	Y	Y	N	Y
Section types	Y	N	N	Y
Debugger supplied	Y	N	Y	Y
Disassembler	Y	N	Y	Y
Multi-window	N	n/a	N	Y
Source-code viewing	N	n/a	Y	Y
Single-step	Y	n/a	Y	Y
Breakpoints	Y	n/a	Y	Y
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Full expression evaluator	N	n/a	N	Y
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Break into running programs	Y	n/a	N	Y
Disassemble to disk	N	n/a	N	Y
Example program source code	Y	Y	N	Y
Operating System libraries	Y	Y	N	Y
Version	1.2	1.1	1	2.0

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Figuring out the phenomenon

Part two: William Poel reveals the financial secrets at Amstrad

Although its difficult, in this instalment I'll try and separate Amstrad from the man most perceived as Mr. Amstrad. It is unavoidable that the Amstrad story revolves around Alan Sugar, but there is another facet to the way the company grew and developed in the years up to the encounter with their first home computer.

Amstrad was founded in 1968, and went to the Stock Market in 1980. This is a pretty good amount of time for an organisation to learn the hard way. With a turnover based on organic growth (i.e. not much borrowing) of £10m in 1980, Alan Sugar decided to cash in a few of the chips. There was, though, really no good reason to do so.

I guess the lure of the cash was hard to resist, as Alan Sugar has never been anyone's idea of a workaholic, and has always maintained a separate and very private life. But only around 20 per cent of the issued share capital was placed in the hands of the public. Alan Sugar kept hold of most of the stock for himself and only sold some 25 per cent in the first place, subsequently watering down to 50.46 per cent at the end of the 84/85 year.

The popular view is that 35 per cent of a public company held in one place represents effective voting control, and only a lazier would choose to vote against the wishes of the transfer of an enterprise where the founder was the enterprise. But it does happen occasionally.

Slaughter the goose?

The current Amstrad accounts indicate that shares held by Alan Sugar (in his own name) account for some 24% of a total of 556m paid up. This is only 46 per cent, so theoretically, the shareholders could now goop up and slaughter the golden goose on a show of hands. This is unlikely, and one of the reasons for this gradual decline is reputed to be a desire by the City to see the guaranteed accuracy of Alan Sugar somewhat less guaranteed as evidence of his good faith in the way the City works. And pigs may fly.

Should Amstrad ever become the target of takeover rumours, many of the gamblers in the City would want to make a fortune, as the company is languishing with probably the lowest value rating - based on historic performance and that wonderful thing called 'track record' - of any share in the world.

For many years, Alan Sugar did not extract his entitlement to dividend, and waived this possibly huge drain on the company's resources. This act of magnanimity went a long way to pacifying the shareholders who have historically received only a meagre dividend from Amstrad, setting instead for capital growth as the share price generally doubled on an annual basis.

So although the company may have issued 12p per share in 1985, it only distributed a penny or so to the shareholders, the rest being retained. And using this tactic, Amstrad has ploughed its money straight back into the business to fund its starting growth. Amstrad tops the league on turnover per employee and return on capital employed over the past few years, and those are the best measures of entrepreneurial skill and enterprise of all. Any firm can earn £100m with shareholders' funds of billions... just stick it in a building society.

In convincing the com-



• Sugar: Nationally worth £40,000,000

pany, it's also worth observing that Amstrad pays its managers (relatively) very little in the UK published accounts. A public company is obliged to list the emoluments of its higher paid employees in the published accounts, so it is interesting to see that in the 87/88 period, Mr. S. took home a meagre £130,000. Which although some of you may find hard to digest is absolute peanuts for a company of the size and profitability of Amstrad. However, his technical slice of the wedge from his shareholding was £40,000,000, so he ain't on his uppers just yet, John.

Other directors were paid in the region of £80-90K according to the UK accounts. Again, bolstered by share options, but otherwise rather modest by industrial standards.

Flying in the teeth of wisdom

In fact, Amstrad has a well-earned reputation for paying its staff rather modestly, as Alan Sugar believes that well-disciplined few (and not many) such as the soldiers in his organisation thus properly rewarded, (trained and highly mobile) whiz-kids. This philosophy is largely proven to be correct by results, but probably another of the reasons why the City regards him with suspicion. This is not the conventional wisdom.

This philosophy is also encouraged and endorsed by his fellow directors, and when he was once faced with the task of hiring a couple of new faces at rates probably close to those being paid to his existing staff, he was obliged to construct a scheme to make the apparent salary being paid rather less, in order to keep the old guard happy. And we are not talking seriously large sums of money here, I know, because I was one of those new faces...

But however irritated an observer can get at the frustrations of being close to Amstrad and watching what many perceive as opportunities being wasted (the PPC is my pet frustration, so near and yet so far off the mark), the fact remains

that on balance Amstrad delivers, and is now doing so with the inestimable buffer of parallel operations around the world.

Amstrad can't get it right all the time, and Mr. S. does not want to have the same sort of mouthpiece mechanisms that more conventional public enterprises can employ to apply the vanishing cream to the wounds (as called PPC), the Amstrad goes unfairly exposed as the bad news is always more interesting than good news. Particularly when the proportions are so heavily weighted in favour of botching good news.

Dialogue of the deaf

For someone who can change from 0 to furious at the drop of an arch, The City is a red rag to Alan Sugar. The relationship between the two parties is at best distant. The City slickers regard Mr. S's outfit as a phenomenon that they can't quite believe and certainly can't at all understand. From his perch in downtown Brentford, Sugar is derisive about the incessant jockeying of his firm's share price, and incredulous of its being so low - even when The City reckons it's so high.

For sure, Amstrad presents the occasional City talk-in to persuade the pin-striped gamblers of the Square Mile that it really doesn't eat babies, but nukes, drop nuclear bombs etc etc. Equally, Sugar has tried to raise his public image via appearing in the Department of Trade & Industry's Europe Open For Business campaign.

The effect is minimal. The City can't quite believe that the one man band Amstrad can continue being successful. The one man band himself can't quite believe that The City can get it so wrong so often.

NEXT WEEK:

He should be so lucky

Just as Alan Sugar's Amstrad was about to launch itself as a computer company with the CPC, so the rest of the market was variously set to explode. Back in April '84, Sinclair, Commodore, Acorn and Atari were just months away from disasters which very nearly killed off all of them. The great computer adventure was just starting...

Growing up in public

When a company goes public, part or all of its shares are offered on the open market, and the proceeds of the sale go in theory straight into the pockets of the private shareholders. Most flotations also manage some form of 'right of issue', where the number of nominal shares is increased. If the existing shareholders choose not to buy these new shares, then the cash goes into the company's coffers for expansion and other business-like City-speak.

The power of Babel

Peter Worlock probes the problems of incompatibility...

Why can't you take a program for the Commodore 64 and run it on an Amstrad CPC, or a Spectrum, or an Amiga? After all, I guess the argument, you can play the same video tape in any make of video recorder, and you can play any music album on any make of hi-fi.

Life with a computer would certainly be simpler without those considerations of compatibility. But, far from improving the situation, manufacturers and software houses are currently making things worse. How many Amiga ST owners have bought a program, only to find it won't work with their new monitor? In the PC world, owners of newer machines with 2.5" disks are having to stop carefully, since most software comes on 5.25" disks. More than a few Amiga owners must have bought King of Chicago, then discovered you can't run it without two disk drives.

But the reasons why you can't use software on different makes of computer are purely technical, and fall into four categories.

Processors

The processor is the heart and brain, or the command centre, of a computer. It is physically constructed to carry out a relatively small number of instructions that do little more than move numbers from one place in memory to another, or to do simple arithmetic with those numbers—usually adding and subtracting, but also multiplying and dividing in more advanced chips.

The first problem is that every different kind of processor only understands the few instructions it is built to understand, and every processor understands a different set of instructions.

This means that the 68001 chip in a Commodore 64 or BBC Micro cannot understand the instructions for a 2801 chip in a Spectrum or Amstrad CPC.

Both the 68001 and 2801 are 8-bit processors; that is, they handle information in chunks of eight bits, or one byte. Once you move up to the Amiga ST and Commodore Amiga, there's another difference. These more recent processors are 32-bit chips—they handle information in chunks that are four times as large as those in 8-bit machines.

However, that only explains why you can't use 68001 programs on a 2801-based machine, or on computers like the ST and Amiga which use the 68000 processor. It doesn't tell you why—since they share common processors—you can't use the same program on a Commodore 64 and BBC, or on a Spectrum and an Amstrad PCW, or an ST and Amiga.

The next level of difficulty lies in how the computer loads the program from tape or disk.

Storage

Computer designers, being only human, like to think they've come up with the best way of doing something. Of course, they share a lot of the same ideas: disk is better than tape, for example. But how many make use of these different technologies in use for grids.

So Commodore designers decided that the best way of handling tape cassettes was to produce their own recorder, and build a special interface so that the computer could drive the recorder. This was slow but reliable, but it also meant you could use an ordinary audio cassette player with the C64.

Bedard's designers, on the other hand, decided it would be better if people could use their ordinary cassette players, so they built the Spectrum to that standard.

There's one reason why you can't even load information from a Commodore tape into a Spectrum, and vice versa.

Another reason is that the designers came up with different—and incompatible—ways of recording the information on tape.

When everybody made the switch to floppy disks, the same old prejudice came along too: our way is best. So when Apple designed a disk drive for the Macintosh, the designers did something very clever: by speeding up or slowing down the rate at which the disk spins, they got more information on each disk—400K or 800K, rather than



• Considerations of compatibility

the 360K or 720K that ST and Amiga owners get off identical disks. But it means you can't read a Mac disk into an Amiga, or an ST, or anything else.

Everything is mutually exclusive.

But suppose you find a way to get a C64 program into a BBC, or an Amiga program into an ST. The instructions are in, and the processors understand the instructions. Why won't it work now?

Memory maps

We've already seen that processors are more or less glorified post offices, picking up numbers and stuffing them in memory addresses. When you manage to load a program for one machine into another it's as if you had sent the mail for one town, Atariville, to its near-identical twin Amiga-ville. All of the addresses look the same, and the post office works in exactly the same way.

So when the Atariville post arrives in Amiga-ville,

the post office doesn't notice anything wrong and starts stinging the mail to the appropriate addresses. Only then do the problems start because although the two towns look identical, the addresses are occupied by different people. In Atariville the bank is in the High Street but in Amiga-ville it isn't. The mail goes to the right address but it reaches the wrong people.

In our real computers, the problems are identical. The 68000 processor in the Amiga will read the instructions for the Amiga and start stuffing numbers in the right memory addresses but is the ST they have a different function. The result is that the computer crashes instantly.

In other computers the problem can be magnified. For example, the Commodore 64 has 64K of memory, or just over 65,000 memory locations. The BBC has only 32K of memory, so if you try to run a 64 program in a BBC, the chance is the processor will be trying to put numbers into addresses that don't even exist.

Special hardware

Finally, let's take the problem to its ultimate conclusion. Suppose you overcome the memory problem. Your program only uses instructions that are identical in both processors, and only addresses memory locations that exist and perform an identical function in both computers. Now what's wrong with the program now?

But it will. You've cracked it, all problems solved. Except one: your program won't do anything interesting. At best it might display ordinary text characters on the screen, but it certainly isn't going to produce dazzling graphics, or great music, or even print out a letter.

As our demands for better software have increased, computers have had to become more complex. Faster processors, and more memory are only half of the story: machines like the Amiga use very powerful hardware to produce their sound and graphics. This special hardware has to map into the computer's memory, but it also requires special programming. Indeed, the chips that produce the Amiga's graphics and sound are almost miniature computers in their own right.

This is the ultimate cause of incompatibility between different computers, and the reason why the comparison with video recorders, or hi-fi, isn't really fair. Yes, you can play the same video tape in different recorders but you only see the same movie. The reproduction might be a little bit better, the sound a fraction clearer, but it remains the same film.

With computers that isn't the case. When you run, say, Starblaster on your Spectrum you're playing a game that is vastly different to Starblaster on the ST. It's as though two different video recorders played different versions of the same movie: on one you got a cast of thousands, breathtaking photography, and the full orchestra; on the other you got the three main characters, a flickering black and white screen, and a solitary bongo playing the score.

What you lose in compatibility, you gain in product quality. ■

Centronics • Parallel

Technobabble

A weekly assault on computer jargon

● After RS232 (see last week's issue), modems are standard method for connecting your computer to other devices is the parallel printer interface.

● RS232 is a serial interface: it transmits information one bit after another, serially. As its name suggests, the parallel interface transmits bits of information together, side by side. Originally this made it faster, although it has been overtaken for speed by very fast serial interfaces. It remains much simpler, however.

● With RS232 there are a lot of variables—devices have to agree on how many bits of data make a single chunk, how errors will be noticed,

how fast the data is moving, and so on. Parallel needs none of this; just plug in the cable and away you go.

● Or not. Because like all computer standards, parallelism is nothing of the kind. Perhaps worst of all, it's a genuine 'almost standard': 99 times out of 100 you can be confident that things will work as they should, but you can never be absolutely sure. There are some parallel printers that won't work with your Amiga ST parallel printer port because the ST doesn't put out enough power to drive the interface at the printer end. Similarly, some parallel printer cables won't work with the Amiga because the Amiga puts out voltage where the

cable doesn't expect it. The result is a dead cable.

● Furthermore, the industry tends to use Centronics and parallel as synonyms. They aren't. In fact, you rarely come across true Centronics interfaces any more, but if you do find a genuine Centronics printer, it almost certainly won't work with your computer's parallel port. Worse, there's no way to tell by looking at how you have to plug everything together and hope nothing dies.

● As always, the only way to be sure is to insist that your dealer proves that a computer, a printer and a cable will work without problems—before you hand over your money.



The place for your questions and suggestions

HELP Star choice

I am thinking of buying a Star LC-10 colour printer for my Amiga A500, and need some help. Could you tell me what software the Star will work with (e.g. Workbench, Deluxe Paint) or will I need special software to use it.

Also could you tell me roughly how a printer works because I know nothing about these devices.

Simon Bailey, South Croydon, Surrey

• The Star is a very good choice: it's not only reasonably fast in draft and graphics modes, but it turns out a decent near-letter-quality (NLT) typeface too. It's also very good value for money, officially priced at around £250, but you can find it for as little as £180 if you shop around.

For general use, the LC-10 will work with any and all of your A500 software, in both text and graphics modes, since it can emulate both Epson and IBM standards. Even colour text is quite simple, since you only need to send a control code to the printer to switch colours.

However, colour graphics is not quite as straightforward. First of all, you need a suitable printer driver which allows your Amiga to control the LC-10's features. On your Workbench disk you'll find a variety of pre-set printer drivers - go into Preferences and select 'Change Printer' - and you can try several of these to see if they work.

Otherwise, you'll have to write your own driver. This isn't so much difficult as painstaking, but you should find all the information you need in the LC-10 manual.

The other point is that you shouldn't expect to be able to reproduce the entire Amiga colour set. You need something like a Xerox colour printer (£1,000 plus) to get 4,096 shades. The LC-10 uses a simple multicolour ribbon and by combining these various colours did by did you can build up a few dozen different shades. This should be enough to allow a screen dump of the Amiga's 32-colour mode, although

Obsolete ST?

A few months ago I bought myself a second-hand Atari 520STM and the person who sold it to me said that it would run both old and new games without trouble.

Is this so, and what is the difference between the old and new languages used in these computers?

Do you think I should sell my old ST and buy a new one? J.G. Stekell, Seaham, Co. Durham

• On all new STs, Atari substituted a new version of the operat-

575 - including yours, Mr. Stekell - and in standard some difficulties with software that bypasses the ROM routines.

However, this works to your advantage. People who buy new STs will encounter more problems than owners of older machines, since all software is written to work with the older models. So you don't have to worry, if you have any doubts, simply get an assurance from your dealer that he will exchange any programs that don't work properly.



• The Atari ST - which version have you got?

ing system ROM (the built-in program that controls the way the ST works). This is very slightly different to the ROMs on older



than try to use the free Atari Basic. You should have got with your ST.

you won't get an exact colour match.

Finally, a general discussion of how printers work takes up far more space than we've got room for here, but watch our Learning Curve section for beginners - you'll find an introduction to printer technology in the next few weeks.

switches changing to the appropriate mode to function with the monitor?

Third, the main reason for buying a multynch monitor now is to allow for future upgrading. Would a VGA card in an expansion slot with the Amstrad EGA disabled allow VGA graphics on a multynch monitor?

Roger Colbeck, Pinner, Middlesex

• Technically, you can do most of what you suggest. However, I'd strongly recommend that you jump ship now.

There are a number of reasons. Video out ports generally put out a composite video signal which degrades the image, and you certainly wouldn't be getting an EGA-quality display. You'd have to find some way of hooking up your Amstrad's video interface to your multynch monitor. Later, when you switch to VGA, you have to disable the internal EGA controller, and that probably means cutting tracks on the circuit board, and I suspect that's not something you'd be comfortable with.

All things considered, you'd be better off abandoning the 1640 now. You can probably get a decent price for it on the second-hand market, and that will get you most of the way towards a genuinely expandable PC-compatible.

If you really think you'll want VGA some time soon, have a close look at the Amstrad PC2086, which has VGA as standard but doesn't lock you in to your first

The second part of your question, I assume, is about the newer version of Basic which is supplied with the ST. In this case, the change works against you. The original Basic supplied with older STs was a real dog, and Atari only got round to fixing some of the worst problems when it released the newer version five years with new STs.

To answer your final question: no, there's no need to get rid of your existing ST, but if you want to program in Basic you'd be well-served to buy a product like GFA Basic or one of the variants of HSoft Power Basic, rather than try to use the free Atari Basic. You should have got with your ST.

monitor the way the 1512s and 1640s do.

HELP Program for success

I am a small-time games programmer who wants to expand into the mainstream of commercial programming. Therefore, I wish to acquire a PDS system, which will aid me in my work.

What would it cost for a £502 system, and where do I get one?

Nigel Smith, Handsworth, Birmingham

• The Programmer's Development System, for those who missed the original article Express PDI is a professional assembler/monitor/debugger/graphics editor which runs on a PC-compatible and cross-assembles for 286 or 68020-based computers.

In other words, you do all your programming work on the PC, but produce programs that run on Spectrums, or Amstrads, or Commodores, or just about any 8-bit computer.

The system consists of an interface board that plugs into a standard PC expansion slot, the software, and an interface for the target computer. The PC system costs £500, and the target machine interfaces are £50 each.

PDS is available from PD Systems on 01-440 1130.

HELP Standard problem

Thanks for your article on PC graphics adapters (Express #1), but I'm not sure you answered my particular question because I have an Amstrad 1640 with no monitor.

First, if I get held of a 150-watt power supply to power the system unit, can I use any multynch monitor such as the NEC II or a Samsung CH4951 plugged into the video out port?

Second, will it just need the DIP

Advanced Amiga Basic book offers any satisfactory solution, let alone the CSM Basic manual. How is it done?

Edwin Le Marquand, St Lawrence, Jersey

• You're right - there is no direct equivalent in Amiga Basic. Instead, the Amiga has a system variable called TIMES which holds the time as set from the Workbench when you first switch on the computer.

This is a 24-hour clock format so that at a little after five past six in the evening, PRINT TIMES would produce: 18.05.10

in the format hh:mm:ss

Unfortunately, there's no way of setting TIMES to zero from Basic, so you have to do some complex manipulation.

The following program shows one way of doing it. I have converted hours and minutes to seconds to avoid having to do the mathematical carry when the second and minute counters clock to zero.

```
Basic:
CALL GetTime (t)
start = t
'read of program
'your here
CALL GetTime (t) STAT:
m = VAL LEFT$(TIMES,2)
n = VAL MID$(TIMES,4,2)
t = VAL RIGHT$(TIMES,2)
IF n = 0 THEN m = n*60
m = m*60
IF m = 0 THEN m = n*60
t = t*60
t = t+m
END SUB
```

```
SEB ConvertSec (hours%, mins%, secs%) STAT:
hours% = elapsed/3600
elapsed = elapsed MOD 3600
mins% = elapsed/60
secs% = elapsed MOD 60
END SUB
```

perform time sub program
start = start time in seconds

'get hours
'get minutes
'get seconds
'convert hours to minutes

'convert total minutes to seconds

% = time in seconds

'get elapsed hours
'strip out hours from elapsed
'get minutes component
'get seconds component

HELP Amiga timing troubles

As a 67-year-old pensioner who has found the last six years invigorated by computers and programming, I welcome the arrival of your magazine. However, may I be one of the first to ask for help.

I need to program a timing sequence on my Amiga in Basic. On the CL18 this is simplicity:

```
10   TIS = "000000"
: rest of program
100  PRINT "Time taken was ";
110  PRINT MID$(TIS,3,2); "mins";
120  PRINT RIGHTS(TIS,2); "secs"
```

Nothing so simple and straightforward is possible with the Amiga and in spite of trying many different approaches, I can find no way of producing the equivalent in Amiga Basic.

What is even more frustrating is that not even the

VP Planner *plus*

version 2

"I can't really see why anyone would buy Lotus 1-2-3 instead of the cheaper, compatible, more powerful and versatile VP-Planner Plus"

Amateur Professional Computing, September 1988

Nor can we. Can you?

Comparison of VP-Planner Plus version 2, 1-2-3® rel 2.01 and Quattro®

Features	VP-Planner+	1-2-3	Quattro
Worksheet size	800x200	819x256	819x256
Number of disks/installation required	2 1/2 m/g	4 v/m/g	4 v/m/g
3 line audio pop-up menu control systems	YES	NO	NO
Undo/redo commands, Entries, macros	YES	NO	NO
Transcript macro files	YES	NO	limited
Background priority recalculation	YES	NO	NO
Fast recalculation	FAST-TEST	see below	see below
Add-in tasks for add-in programs	YES	NO	NO
Text editor	YES	NO	NO
Report generator	YES	NO	NO
Line and line drawing	YES	NO	NO
Data input commands	YES	NO	NO
Multidimensional database files	YES	NO	NO
BASE file retrieval by field & record	YES	NO	NO
Always print	YES	NO	NO
Background print	YES	NO	NO
Autosave	YES	NO	YES
Range of cells with commands	YES	NO	NO
8 with command (hide)	YES	NO	NO
Up to 8 windows on a worksheet	YES	NO	NO
Print graphs from worksheet	YES	NO	limited
Number of user directly executable macros	any	2	any
Macro learn mode	YES	(add-in)	YES
Edit recorded macros	YES	(add-in)	YES
Macro do-log (step mode)	YES	YES	YES
Marketing functions	21	8	29
Logical functions	9	7	8
Financial functions	3	1	11
Statistical functions	24	14	14
Date/time functions	10	11	12
String functions	27	17	24
Other functions	36	11	15
Total functions	107	66	100
LOA, CGA, Hercules supported	YES	YES	YES
VGA, ATI video support	YES	NO	yes only
Speed trials			
Addition large	0.82	4.00	*
Addition small	0.39	1.00	2.26
Division large	0.82	8.00	*
Division small	0.39	1.00	2.42
Expon large	0.82	16.00	*
Expon small	0.39	2.00	6.68
Multiply large	0.82	20.00	*
Multiply small	0.39	2.00	2.25

All times in hundredths of a second. Large and small versions of four macro-driven worksheets were used. Large models contain more than 75 rows and 75 columns; small models contain 75 rows and 25 columns. Tests were conducted on an AT clone at 386MHz and no processor. *Quattro could not load large models with 16MB free after DOS. Lotus 1-2-3 returns the values shown in the nearest second only. VP-Planner Plus runs on IBM PCs and compatibles with 286K or more RAM.

"VP-Planner Plus is a magnificent program and arguably the best spreadsheet on the market today" - PC Plus, February 1988.

"More sense than money" - PC User, March, 1988

These accolades were based on version one of VP-Planner Plus. Version 2 has now gone even further, and faster!

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15.70c £19.95cs • Apple II £24.95cs • PC
£24.95cs • Atari ST £24.95cs • Amiga £24.95cs
(not all episodes available in all formats)



The Ultima series is one of the most successful computer role-playing games, and is now available on every computer that has sold in reasonable numbers in the US (unfortunately, that rules out the Sonnet and Amstrad CPCs). Distributed by Microprose in Britain, the fifth Ultima episode has just been released.

All of the games are set against a common background which eventually develops into the kingdom of Britannia – and since this is a fantasy role-playing game, Britannia's problems are largely of the 'invaluable wizard' variety.

The first three outings are fairly routine monster-bashing operations, though of a high standard, none-

less. Ultima IV, however, broke new ground with *Quest of the Avatar*, a cosmic consciousness-raising trip in the spirit of Galahad and the search for the Holy Grail.

The graphics are less than brilliant, consisting of tiny characters wandering over a 2D map, but the size of each game, the magic and combat systems, and the wealth of background detail make them really get your imagination working.



From US Gold for C64 £9.99cs £14.99 dk • Amiga
£24.95cs • Atari ST £24.95cs • PC £24.95cs



Definitely the one to watch, this isSSI's opening shot in a series of games based on the granddaddy of role-playing, *Advanced Dungeons & Dragons*. SSI claims it sticks to the rules of AD & D putting six characters under your control, computer-controlled multi-
tude characters and what must be the most sophisticated magic and combat system in gaming.

The storyline of the first episode is the familiar 'city in mortal terror', but SSI is promising that everything else will be strictly above average, with 3D perspective graphics, close-up portraits of characters and monsters, and loads of other good things.



From Electronic Arts for C64 £14.95cs • Amiga
£24.95cs • Atari ST £24.95cs • PC £24.95cs
(not all games available in all formats)

The biggest failing of the Ultima series was the scrolling 2D map that presented your main view of your characters' progress. Electronic Arts' *Bard's Tale* remedies that with a genuine cut-the-eyeball view of your surroundings.

The first game of the series is set in the troubled city of Skara Brae and you guide a party of six adventurers around the streets, dungeons and castles as they learn their trades of fighter, bard, thief and magic user.

There's a veritable 'cast of thousands' by way of monsters and enemy fighters, as well as a series of even more powerful 'boss-monsters' of evil before the final confrontation with head baddie Mungar.

Well, not so final, because *Bard's Tale II* is now out on C64 and Amiga, and the third instalment of



the saga has just been released for the 64. The good news is that you can use your original party in the subsequent games, so you really do get concerned with their well-being.

Bard's Tale can lay a strong claim to being the definitive fantasy role-playing game to date (although the joint US Gold/SSI venture with *Advanced Dungeons & Dragons* might challenge that). It may not have the graphic excellence of Merriam's *Dungeon Master*, but it more than compensates with an enormous challenge that will have you playing for months, if not years.



Ultima series

GAMES

THAT

TAKE

OVER

YOUR

LIFE

There are arcade games, like *Arkanoid*, *Spindizzy* and *Uridium*, that have the joystick jocks in glassy-eyed ecstasy. There are the cunningly-plotted adventure games, like the *Zork* trilogy, *Guild of Thieves*, and *Hitch-Hiker's Guide*, that leave players mumbling in their sleep. Classics all.

But there are a select few games that go beyond mere entertainment, the games that threaten to submerge your own personality beneath that of your electronic alter ego. They are the games that consume months of your life as your heroic counterpart learns and grows – and, more often than you'd like, dies.

What are the factors that combine to create these special games? First, the hero or heroine must have an identity that you can believe in, a persona that you, the player, can assume. Which immediately rules out all the arcade games – you can't make much of an emotional attachment with a bunch of pixels, no matter how beautifully drawn.

Second, the character must develop as the game progresses, through the acquisition of new skills or powers, or discovering new information. This qualification, for example, rules out an otherwise excellent product like Microprose's *Garship* which fulfills the first requirement. But *Garship* has no story – the first and last piece of plot is "Kill the gooks", and then it's simply a question of how well you can accomplish your mission.

Third, and perhaps most important, the story must go on and on, the longer the better. There may be a definitive ending to the story – the destruction of some mighty opponent, the award of some ultimate accolade, but you'll be a long time getting there.

In any event, it's the journey, not the arrival, that makes these games so enjoyable: the striving against monstrous odds, the application of skill, the triumph of courage and daring, and the use of superior intellect.

Somewhere down the line, in the not-too-distant future, the descendants of these games will be the electronic entertainment of their day. When the science-fiction dream of direct sensory stimulation takes over from humble displayed graphics and sound effects, these games will offer the ultimate entertainment: the chance to shrug off your 'real' life and jack into a more exciting universe. And who knows, perhaps some players will prefer not to jack out again.

In the meantime, here is the New Computer Express list of present day Silicon Dreams....

WHAT A LOAD OF RUBBISH

So disagree with the titles selected on this page? Then why not tell us what's kept you glued to the screen for months on end.

Write to: Addiction Corner, New Computer Express, 4 Queen St, Bath BA1 1EQ.

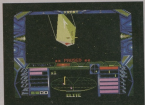
Elite

Probably the first, and still one of the best, other realises, *Elite* fulfils all the given qualifications. Basically a space trading game, what sets *Elite* above the competition is the open-ended plot – while your goal is to receive the ultimate accolade of *Elite* pilot, how you get there is up to you.

You can be a hardworking trader, set for life on the edge as a bounty hunter, or try the lucrative but illegal – not to say dangerous – route of trading drugs, guns and slaves.

The gameplay is soiced up by the introduction of several missions outside the normal run of play – successfully completing these helps enormously in your quest. Coupled with the nicely-devised story is large element of 3D shoot 'em up with fast-moving wireframe graphics (solid-filled on the PC version).

As your skill – both at trading and fighting – improves, so do the rewards with more powerful weapons, more potent defences, and extra cargo capacity. After months of play, you have a great deal invested in your character.



From Firebird for Spectrum £14.95c • C64 £14.95c • £17.95c • Amstrad £12.95c • £14.95c • PC £24.95c • ST £24.95c • from Superior Software for BBC £12.95c • £14.95c

Alternate Reality

As the title suggests, this offering from Datasoft takes reason to the nth degree: in what other fantasy game might you get a job washing dishes in the local tavern, or choose between beef sandwiches and mutton broth from the menu?

Another long-playing series, the opening episode sets you down in the city of Xebec's Denisse, stark naked, unarmed and with a severe cash-flow crisis. So



you need a job, clothes, and weapons if you're going to survive, let alone establish your heroic credentials.

The second installment, *The Dungeon*, is where you get down to serious monster-slaying, and further add-on modules are promised. This game, then, is truly an 'alternate reality'.

Unfortunately, the game doesn't quite live up to the promise: the graphics are fine (in the style of *Bard's Tale*) but there's no animation, and lots of disk accessing slows down the gameplay to barely tolerable levels on the 64 version.

However, the 16-bit implementations are fine, and if you want a game that could occupy the rest of your life, this is the one.



From Grandlam for C64 £14.95c • Amiga £19.95c • from ST £19.95c • PC £19.95c • Apple II £19.95c

Starflight



One for PC-owners only, and for that reason it rarely figures in discussions of the great games. But make no mistake, *Starflight* is a classic.

It begins as a more-or-less routine trading game but quickly develops into a massive odyssey of interstellar exploration and detection.

You lead a crew of six aboard your starship, mining for minerals, collecting exotic lifeforms and historical artifacts with the aim of earning money to develop your ship. This is no trivial task because there are literally hundreds of planets, all completely mapped.

But it soon becomes apparent that there is a more pressing task to discover the story of the mysterious Ancients, and uncover the cause of a star-bombing force which is gradually making all planets in the galaxy uninhabitable.

There are other intelligent races in the game, and to succeed you'll have to fight with some, but more often you need to establish peaceful relations and talk to them. They give you the necessary hints and clues to complete the game.

Starflight uses the PC's four-colour EGA display mode, so the graphics aren't brilliant, but there are some wonderful effects and the storyline, and excellent gameplay more than make up for that.



From Electronic Arts for PC only £24.95c

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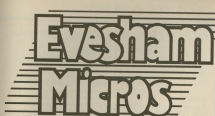
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Screen for IMG

No wonder there's a dearth of decent graphics utilities for the ST. Here you've considered how many different types of screen format exist? Counting the various art packages will give you an idea. Art Director, Art Studio, Design Suite, Pixel Paint, DPA Artist, HyperPaint, Neochrome, Pro-Painter, Quattro Paint, Spectrum 512. That's almost every package listed has its own exclusive screen for the format. Talk about inventing the wheel!

Protext V4.02 ready

Amer has quietly released version 4 of its popular Protext word processor. The enhancements certainly aren't anything to keep quiet about, and bring the word processor on a par with Amiga and PC versions.

The greatest improvement can be found in the configuration program. No longer do you have to tackle unsightly configuration screens. Instead you pick items from menus. Additionally, the effects of altering certain options - paper and pen colours, for instance - can be seen immediately. This is how it should have been done in the first place.

Additions include a free drawing mode (you can draw horizontal and vertical lines within your document and only print the result using an IBM compatible printer), sequential key presses for accessing editing features (that is, you can press Control and then F to format a paragraph rather than Control and F simultaneously), First Word Plus file conversion utility, redifable screen characters, spell-checking while typing, automatic formatting and numerous command line extras (BRI for changing the colour of an ink, TOUCH for entering a file with the current date and time, UPDATE for updating files).

Normal and Control Function keys can no longer be set, instead they perform specific actions like cataloguing the disk, marking the beginning and end of a block, switching an help mode, jumping to the main menu and so on.

Old favourites like PMMC, (W)OL and HELP file are still present. Upgrading from earlier versions will cost you £15. More from Amer on 0733 68905.

Come on software buyers, decide on one format and stick to it. Look how successful STP (inexhaustible file format) is on the Amiga (it's only about the machine). Not only does STP cover screen alterations, but also sound, tables, text, animation. Instead of there's data on an Amiga disk, you're virtually guaranteed that a follow-up conversion.

The clearest thing to us official standard file format on the ST is GEM's IMG picture format. Unfortunately it has never been taken seriously - even on the PC. It's partly Atari's fault (an IMG hasn't taken off on the ST, in the early days the 16-bit standard was loaded with what is best described as a half-baked version of Neochrome. And as you know, Neochrome's file format will be further from IMG. IMG, accidentally, doesn't care what size the screen is: images can be larger, smaller, or identical to the screen boundary. The other major advantage over rival formats is that data is stored in compressed form, consequently taking up less space on disk.

Perhaps it's not all doom and gloom, however. Two of the latest art packages, Atari's AppPaint and AMI's Pixel Paint, can handle IMG (as well as Design, Neochrome, etc, etc).

Let's hope all new art packages make a point of offering the IMG file format.

Starcom still

Coming soon from Electronic Arts: a Starfighter II sequel. You don't believe me, do you? I've spoken to the programmer, and judging by his past work, you're in for a treat. The game is in EA's hands as I write. It could be in yours in a couple of months. Faster and pricier than Jet Set magazine. You wait and see!

Atari's much-maligned Super ST looks like being really late next year, and is unlikely to do with the forthcoming 68030-based Unix workstation. Unfortunately the Super ST won't be as easy as we first thought. While it will boast more sound, 4096 colours and hardware scrolling, it won't feature a 68030 processor. Instead, the comparatively slower and underpowered 68010 will be used. Sources at Atari claim the change in specification was made to keep the cost of the machine as low as possible. Still, if the Super ST has plenty of powerful custom circuitry that can take over the processing away from the 68010, Atari will have another winner on their hands.

Expecting a major new set of games software from the US? The Knowledge Asset (now available). Originally Database (now available) gave complementary stands to Games and US Gold so the two companies could display their wares and be part of the massive games arcade.

Not surprisingly other software houses which have to pay for space - MicroVideo in particular - complained bitterly at this unfair treatment. And rightly so. The result is that Database has withdrawn the offer of free stands to Games and US Gold. Games and US Gold won't be at the show.

Goal!

Low on cash in Football Director II? Try this trick. Load a saved game, make a note of the money you have in your bank account and then exit. Load up a word processor - anything you're sure works with your ASCII files - and load in your saved Football Director file. Move to the end of the document; eight lines from the bottom you will find your bank account. Simply change this to what you want. The line below will have a similar number. Change this so it's equivalent to the new bank account entry. Save the file when you have finished.

FOOTBALL DIRECTOR II



ATARI ST

Load Football Director and load in the altered saved game. You will find you have a very healthy bank balance. With this money you can buy players, make ground improvements and so on.

Richard Mortimer

PC UPDATE

Sprint statement

Can you see anything different about this week's column? Yes, you guessed, it's written in Borland's new super word processor, Sprint. At first look it's very impressive, it scrolls from the 32 x 2560 dots supplied (you can choose 32" dots if you prefer, saving just the drivers you need to suit your hardware).

The manuals are something of a tour de force. The Reference Guide, User Guide and Advanced User Guide, each at over 250 pages, are supplemented by a Guide to the User Interface, one of the big features of Sprint, and they are all located in a large library drive. You certainly get your money's worth there.

SPRINT

THE PROFESSIONAL WORD PROCESSOR



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Running the program calls up a nice clean edit screen with a single ruler line at the top and a status line at the bottom. Sprint is menu or command-driven, but it's so easy to use the program from the menus (F10) like the main menu, running vertically down the right of the screen, and options lead to subsidiary menus appearing across the screen.

Most things are taken care of in Sprint - there's a 300,000 word dictionary and a 240,000 word thesaurus (though no word count) and the word processor can handle up to 36 files at once. Its intelligent enough to remember which documents you have open at the end of a session and reopens them at the start of the next one.

The most published feature of Sprint is its compatibility with other word processors. As well as being able to import from many of the most popular programs, retaining some or all elements of formatting and typewriting, it can also export to them. Not only that, but the entire Sprint response to can be completely automated so that the word processor will work very like any one of these other pieces of software. Whether this will prove to be the attraction that it will, depends on how close to the originals these alternative User Interfaces prove to be. Sprints own interface seems very reasonable, and includes some useful extras, like the ability to back up the current document in a background task while you're still working on it.

More time is needed to reach a full appraisal of the software, but it looks nice, it's slickish in places or so XT.

Your local directory

Apologies to anybody who already knows this, but I really really really need to use it myself now.

by the MS-DOS directory renamed can take full paths and wildcards. This effectively means you can call up a directory of any set of files from any directory or sub-directory on your system. Rather than typing:

CD C:\

DIR

CD \

to display the contents of the sub-directory FRED (from the root and return there, you can type:

DIR /FRED

When you type DIR on its own, MS-DOS assumes you want to show all files (other than hidden ones). In effect, it defaults to '*' for a straight directory listing. There's nothing to stop you adding other wildcards to your DIR command, though. For instance, DIR *.EXE will display all the executable files in the current directory, and DIR AUTO.* would show you all files beginning with AUTO.

You can combine paths and wildcards with a retained like DIR C:\BATCHES.* BAT to name all the batch files in the BATCHES sub-directory of C:\ drive, no matter where you are in your system.

Out of control

One of the advantages of the Apple Mac (that, with your mouth open, is that control sequence for the Mac) are the programs are defined by Apple, rather than being left to individual software developers to sort out for themselves. This means nearly all programs written for the Mac use the same basic key sequences for deleting a word, killing a file or any of the other mundane housekeeping chores that software is supposed to cater for.

On the PC, though, any programmer is entitled to have a flag. If you want to use Ctrl-D to exit from your program or Alt-R to refresh the screen, there's nothing to stop you. Those examples are no exaggeration, either as they come from a word processor which recently had into my hands. The same program uses F10 (F10) (F10) (F10) to start a file!

The problem of choosing conventions for commands gets more involved as programs become more sophisticated and offer an ever increasing number of functions in a limited number of special keys.

Disgust key sequences are most prevalent in products which originated in the Public Domain, or as Shareware. These products have often evolved from simple programs, which first started life with quite logical sequences for their commands. As new features are released, though, other less memorable sequences have been tacked on to cover the new functions.

To, which the solution? One way which seems to work well and has been used to good effect in recent programs, including Sprint, is to use a menu system in parallel with key sequences, and to display the key sequences in the menus. Then, not only do you have the facility of flicking through the menus when you're new to the program, but each time you call up one you are reminded of the shortest you could have used instead.

Menu options, of course, should be selectable with a highlight bar or by pressing a single character, highlighted within the option.

Simon Williams

Feedback

If you find an error in this column of particular interest, have any hints or tips on DOS or related PC matters, or strongly disagree with any of my ramblings, please drop me a line. Write to PC UPDATE, New Computer Express, 4 Queen Street, Bath BA1 1EL. Sorry, but I can't undertake to answer letters personally.

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Incompetent Commodore... again!

Quite a few weeks came from the Marketing Department at Commodore - to be more precise, the lips of a certain Lesley Rebbah. When we recently phoned her in connection with acquiring an A2000 budgeted for review purposes, Lesley while tapping away at a computer keyboard, was quizzed as to the whether Commodore have enough confidence in the Amiga to use the machine themselves. Calling upon her extensive knowledge of all Commodore computers, Lesley replied 'Oh No! But it's a Commodore something or other'.

Dragons Lair on the Amiga

Do you remember the old video disc arcade machine *Dragon's Lair*? If, like me, your 30 pence lasted roughly ten seconds, then you'll be so dumb to believe that you'll soon be able to practice at home - on your Amiga! The American company that brought you the CIA Emulator, ReadySet, has taken on the monumental task, and advertisements have already started appearing in the American computer press. The game requires at least 1 Megabyte of ram and even with a second drive, frantic disk swapping will be the order of the day as it's packed onto an astonishing six discs!

ReadySet claim the game features real-time cartoon animation that pushes the Amiga's graphics hardware to its limits. From the various screen shots I have managed to find, *Dragon's Lair* looks like being one hell of an arcade conversion.

Plans to release the game in Europe are still unclear but no doubt some interesting comedy will see it to impact the game. Even if *Dragon's Lair* does reach our shores, the price is undoubtedly going to be high. In the states, the game is advertised for just under \$60 and if past experience is anything to go by, the price in this country will be a decent one to one conversion.

Arkanoid Action

Here's a great little cheat for those of you struggling with Discovery Software's excellent arcade conversion. When the *Vaux* first appears, press the space bar and enter "demagic". Once you've done this, press the space bar again and a yellow capsule labelled "DS" will float down the screen. Catch the capsule then press the 'X' key and you will now be in cheat mode.

By pressing various keys on the keyboard that correspond to those on the various capsules within the game, you can make any one of the capsules appear. The letters are:

- B = Break - Makes the ball split into three separate balls.
- C = Catch - Stops the ball from rebounding off your bat.
- L = Laser - Allows you to destroy bricks with a laser.
- S = Slow - Slows the ball down to a more acceptable level.

F = Final - Takes you to the final confrontation with DON. Unfortunately, there seems to be no way of turning the cheat off once it is activated so be sure to keep your hand well away from the keyboard!

Amiga Protect

Something wonderful has happened - Amiga Protect has finally arrived! Pardon your Mead Protects and your Scibbles, the king of all word processors has eventually made it across onto the Amiga. Stick in true blue!

Until now, I must confess, this column was actually written on an Atari ST running Protext, but now the Amiga version has finally arrived I suddenly now seem to use an Atari ST

for word processing purposes ever again.

After using our review copy for about a week now I can safely say I'm hooked. There is just nothing to touch it for both power and ease of use and in my opinion, it is now the premier straight word processor for the Amiga.

If you're in the market for a decent word processor then do yourself a favour, buy Protext. It is quite simply a graphics thank too good to miss. A full review of Amiga Protect can be found elsewhere in this week's *New Computer Express*.

Well, that's enough advertising for Amiga. If anyone at Amiga is reading this, I'd just like to say that a complimentary copy wouldn't go amiss! Please?

Digita Dodes

Digita, a company that is renowned for releasing some real state of the art products, has released some really exciting packages for the Amiga. The two packages in question are *Day by Day* and *Ettype*.



• Ettype - putting back the frontiers of technology

Day by Day is described as a 'comprehensive life organiser', which, roughly translated and de-typed, means diary. The most amazing item of type on the packaging is the 'intelligent calendar' that will look after you... right up to the year 2000! Well Digita, the year 2000 is not that far off now you know!

Ettype goes the sword for word processing and biggest step backwards in computing since the Amiga CIBB 64 Emulator. The package is quite simply a typewriter program. Yes, Digita are really in the forefront of software design with this one. It works by transforming your Amiga and prints out as a typewriter, what you type is instantly sent to your printer.

Surely, Digita, the whole reason why the computer has revolutionised tasks such as letter writing is because of the flexibility in text conversion, spell checking and other programs such as word processors offer.

A Furtle Attempt

The English Language has come along way and just to prove it, try reading a Commodore press release.

We were recently sent a communication concerning the latest Amiga EBC Emulator and within within the specifications was a rather interesting feature supposedly offered by the Emulator: A Disk Parking System.

Ruling out the possibility of it being a type, we can only muse at what ludicrous mind came up with such as addition to the already overflowing list of computer jargon.

Jason Roberts

SPIN

The pitching and rolling road

Antisocial Megadisc, or whatever they're calling themselves this week, surely deserve an award for being the most annoying cover story house around.

Ad-stounding!

I'm writing this week's column in a state of shock. When reflecting the only ad to catch up with events in Brookside Close, I found myself watching an advert for the £3.50 my eyes deceive me or is Baron Sugar finally starting to push a computer with the Sinclair tag on it?

For those who don't watch quality programmes, the advert basically features a trendy-looking teenager prying money and steady unimpressive games in his £2. It includes several close-ups of the disc drive and phrases like 'Advanced Sinclair Technology' and the classic 'at £199 even I can afford to save the Earth'. Still, computer ads never have been known for their quality. Remember Commodore's Elephant advert? Me neither.

First, they achieve the impossible task: manage to crash to the numerous magazines of snake music. Afterward into 65K, and successfully too if the defective New Computer Express review is anything to go by. Not so to get on their brands, they are now releasing conventions of Galaxy Force, basically Afterburner in space, with loads on - and the highlights tend to throw you around more too.

You have to wait until late 89 to see how it turns out, but in the meantime you could always have a go at constructing your very own hydraulically-controlled weight using 2 weighing up liquid bottles and launch amounts of sticky-bait plasticine.

Smiths pull out

Ever since the Z80 was released and people the world over got to grips with RAM pack modules, there have been a number of machines at VLS. That's probably why I was more than a little surprised to hear Smiths have decided to drop the £1 and £3 from their shelves, apparently because of poor sales. At Amstrad's prices it's not surprising. The computer that will be replacing our beloved Spectrum is the Z80 Amiga!



• The Spectrum +3 - disappearing, with the £2, from Smiths.

Footie frolics

Here are a few more signs for the extensive range of football games on the Spectrum. Only

really planned for release by Football before they founded, footballer's seat that handles (oh yes) Roy of the Rivers is the game of the month.

It's up to Roy to save the day once again as the time the Manchester chatty 5 a side team has been kidnapped. To find them Roy has to solve a terrible ancient adventure using 'all his chain and chains to survive.' I think you get the idea.

Having hopefully recovered Roy's computer you can then take part in the football playing part. It's free-wide, very convenient for the programmer's applicable and the bloody black and white graphics can hardly be said to emulate the famous red and yellow strip of the comic book's Manchester United.

Which brings and almost worth pointing that picture for it is a 5 a side Soccer Simulation from Code Masters. This was pretty well covered [1] in the last issue, but my edited highlights would go something like this: Good variety, shame about the graphics. Better than the recent Ladder and Ladder games but not a patch on Matchday. Plus, you'll find two expensive, it won't leave you as sick as a parrot, but hardly over the moon either.

And now for something completely different...

The Computer Manuals Diary 1989 from Denmark is a product which really needs to be advertised under the slogan for the computer user who has everything.

It's a decidedly off-beat computerized diary, with most of the features found in its paper counterpart, like newspapers, calendars, still buildings. There are also trivia quizzes, hang man, weather forecasts and horoscopes. Probably the most useful feature is the built-in Big Brother System (M.E.B.S.) simply input the egg size and viscosity of yolk and yolk gives a briefing later. Hmmm, just what I've always wanted.

Sharpen points

Last May I was enjoyable once you've managed to get to grips with the all-but-control method. Here are some handy-suggested tips for level one:

- the best unarmed fighting method is to keep kicking and then occasionally punch.
- don't be too loose. It's often better to run around the enemy rather than lose some of that all-important life force.
- collect a map and the objects you need will flash when you enter a location.
- punch a panel on the wall to open a trapdoor on the first screen.
- the key space the grace in the park.
- weapons just waiting to be picked up include the staff, lying with sticks on top of a wall, a macehead, split in two (each part in one of the points), and throwing stars (not all listed in the manual, and always seen in a box in the pit, which is for police brutality).

Speak up!

New Computer Express's plain executive reception hasn't actually been flooded with your text yet.

Take this as an impassioned plea for more. I'd really like to see your suggestions if they're relevant, all the better, opinions and points of view. Hints, tips and points are especially welcome. The fact is, I don't get much time to play anything thoroughly enough for really in-depth material. Fanatical and independent software will get just as much coverage as their glossy counterparts providing they are good enough. So come on you Sportsman, get writing - you'll make an old computerer very happy!

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Robin Alway

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BEEB BOX

Shock, horror!

Open warfare in the classroom? Computer makers scramble for kiddy business! Computer textbooks move in on it! So maybe the tabloids describe the current situation in educational computing.

Acorn's course are market leaders in education in this country with the Master 128 and Archimedes series of computers, but at the moment they have both Apple and IBM, nip-nip-bop at their heels.

Beeb book

This week's little bit of inside information about your BBC comes courtesy of the Master Operating System Guide from DABS Press.

This book is a superb reference work for anyone wishing to develop programs for the Master series computers. It contains full details of new features, example programs, a mass of detailed information and intriguing details.

For example, you can put comments into your batch files at BOOT up, simply by typing "I distribute this by a carriage return. This makes them much more understandable, as it is so easy to write a batch file, and then forget what on earth it is all for later on!

Such is the bitterness in the conflict, that Acorn MD Rowley Green is at a recent speech, condemning the advertising of IBM, and admitted that Acorn were considering

referring the matter to the Advertising Standards Authority.

Acorn, of course, are never shy to make claims themselves, and Coleman went on to say that demand for Master computers exceeds supply at present. This sounds impressive until you realise that there is some doubt as to whether Acorn are actually making any Master computers at all!

However, sales are strong at the moment, probably because schools are now buying computers by the month, rather than in ones and twos. In this area Acorn have the trump card of a massive installed user base, and also an entry price point considerably lower than the opposition. This together with the Expert network means they practically have the primary and secondary sectors sewn up.

However, education is really a lot of niche markets all lumped together, and it is these that Acorn's computers are attacking with the aid of aggressive pricing, and advertising. But small companies like IBM, and large ones such as Apple, are beginning to establish footholds in the further and higher education, with a view to gradually sweeping downmarket.

Software subsidies

Numbers of discredited ones also be banded in the educational software market, where 4Masters Mike Mason was complaining about the DTI's policy on subsidies.

Apparently 5M old software converted for the IM Machines will get a grant, whereas brand new software for the BBC will not, and the BBC Band from Slough has arranged a meeting with Labour spokesman Bryan Gould, with a view to raising the matter in the House of Commons.

Andrew Brown

MSXTRA

Software shortage?

I'll start with a good guess. Why is it that we in the UK are not being supplied with software readily available in Europe and Japan?

For example, R-Type is available in Japan, and is supplied in ROM for the MSX 1 and 2. This game is available on every major format in the UK but MSX 1 would have thought that as an MSX version had already been coded it would have been easy for Electronic Dreams to supply it alongside the others.

Also, take a game like Fernando Marcos, Buster Mouse. This is a game from the Spanish software house Diamic, and it is said to have sold 28,000 MSX copies in Spain. If this game is that popular, surely someone could send a few copies over to the UK for us poor software-starved MSXers?

Maybe one reason we don't see better support here is that although there are quite a few licensed MSX copies in the UK, when a game is released very few users actually buy it. Fancy amongst MSX users is rare, and unless more people are willing to part with their hard-earned cash - well, there soon won't be any software left to supply.

Kosmos club blues

Any members of the Kosmos Software Club out there who are wondering why you haven't

received your monthly newsletter - it's because it's too large a monthly.

I've been reliably informed that it will now be published every three months. Your next copy should be available in December.

Show success

The first Alternative Mass Show has just been held in Birmingham, and MSX Central, a Midlands-based user group, were there to fly the MSX banner.

My spy at the show (thanks David!) informed me that although the show started at a leisurely pace, it picked up nicely in the afternoon. In fact the MSX stand drew quite a crowd, with particular interest being shown at the Philips VG2301/2 MSX computer.

Spain's no. 1

Want to know what's no. 1 in the Spanish MSX charts this month? Well I'm going to tell you anyway - Temptations, from a company called Top Soft. New Top Soft are, I believe, going to start distributing software in the UK, so maybe this game may shortly reach our shores. If I could tell Spain's I could tell you what this game is about...

This machine is the computer with a built-in digitiser. One look, mouse control etc, and retail in this country for around £200. Even at this price several orders were taken. I was told that there wasn't a computer at the show to touch MSX, but then we are biased.

Plenty of new software was displayed and sold on the MSX stand and several new titles took. Again there was evidence, so all in all MSX Central had a very good show.

Final reminder

Don't forget the MSX Tech Show at the Newcastle Meeting Place, Milnes Keynes on December 4th. Phone 0698 674065 for details.

Kath Neal

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BULLETIN BOARD

We are now running a Viewdata bulletin board on 0772 454328 open 9 days a week weekdays and all weekends which is mainly QL specific but includes a Z88 section and is soon to include an Amiga section.

We are at the moment writing Amiga to Z88 file transfer software and Amiga to QL software. If you are interested in either of these then please contact us for more details.

We stock too many products to mention in any advert. We have a regular four page advert in QL World each month, so please send us a SAE or give us a ring for our free product guide and price list. The next Z88 Monitor is to be held on December 15th at the usual Hothall Hall, London. See us there as usual on stalls 31, 32 and 33.

A goods ordering section is now available on the Bulletin Board, so goods can be ordered by Modem.

NORTHERN SINCLAIR SHOW

Due to a lack of previous shows in the North for Sinclair machines Sector Software are to be organising a Northern Sinclair show around Preston in Lancashire (just 28 or 29 ME) in about March, anyone who would like to be mailed with details or any Spectrum, QL, Z88 computers or peripheral suppliers please contact us for details.

We have a range of QL, Spectrum, Z88, and Amiga spare parts including service manuals, ring for prices on individual items.

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PSsst!

A last look at the
computer scene by
cynical old hack, Private I

Mad Max and the Dame

It's not true. Robert Maxwell hasn't bought us. It hasn't happened, it won't happen and there's no reason for it to happen. We're very happy where we are, thank you," said the dame from Telesoft.

You heard the lady.
To be told that the contract was out for Telesoft and that Big Robert and

his boys were the ones gunning for it. It couldn't have been a big break. Mad Max flays his monster chequebook and the Telesoft crew bite the bullet. But no. The Queen Ben Paula Byrne says not. She's happy living with the softown mob at Telesoft.

So I call my contacts. "Hey, who's the brightest with the Telesoft contract?" Just

gimme a break. Just gimme a name. I need the story."

The trail went to Virgin. Branson's crowd think big. They took out the east-side gang Mastertron just the other week. Maybe they now got the hots for Telesoft. But my man says no comment. No comment? Whoddy mean with your no comment? I need that like a need a tole in the head.

Things were looking desperate - like a great gap on page two type desperate. Who'll give me the big tip? I call the biggest name in contract software - he'll know. Tell me, just tell me. So he begins, and I feel the rush of blood like I never felt since I heard how Big Al did for Cambridge Clive. Makes your blood run colder than smashed ice-cubes. The guy sure knows his stuff - but the guy knows

nothing about the Telesoft heat. Maybe he's the one gunning for them. But I got no takers on that one.

So it's back to Mad Max. I sail one of his men and hit him hard. You've taken out Telesoft, right? Wrong. 24 carat wrong. He sure runs a neat operation. All trails lead to Big Robert, but all trails go dead. It just don't slack up. Someone's gotta squeal.

Maybe it's the Lady Paula. Maybe she's planning an inside job to buy herself out of Corporationsville.

But it's the big zero again. Everything means less than zero. I'm on a one way ticket to the Machine Specifics if I can't get this one to stand up.

So I gotta go with Max. He's the man. He's buying Telesoft and you read it here first. ●



• Robert "Mad Max" Maxwell: Are you for sale?



• Paula "the Dame" Byrne: No

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FAKELN

A screenshot from the video game 'The Simpsons: Bart and the Beanitos'. The scene is set in a Mexican-themed environment with a blue sky and white architectural elements. Bart Simpson, wearing a sombrero and a poncho, is on the left, holding a sombrero. In the center, a large sombrero is on a stand. To the right, a group of characters, including Bart and his friends, are gathered around a table. The game's title 'THE SIMPSONS' is visible at the top.



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